



Statistics and Counters Reference, StarOS Release 21.15

First Published: 2019-08-29

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About this Guide



Note The ASR 5000 hardware platform has reached end of life and is not supported in this release. Any references to the ASR 5000 (specific or implied) or its components in this document are coincidental. Full details on the ASR 5000 hardware platform end of life are available at: <https://www.cisco.com/c/en/us/products/collateral/wireless/asr-5000-series/eos-eol-notice-c51-735573.html>

This preface describes the *Statistics and Counters Reference* and its document conventions.

- [Conventions Used, on page xxxiii](#)
- [Supported Documents and Resources, on page xxxv](#)
- [Contacting Customer Support, on page xxxvi](#)

Conventions Used

The following tables describe the conventions used throughout this documentation.

| Notice Type | Description |
|------------------|--|
| Information Note | Provides information about important features or instructions. |
| Caution | Alerts you of potential damage to a program, device, or system. |
| Warning | Alerts you of potential personal injury or fatality. May also alert you of potential electrical hazards. |

| Typeface Conventions | Description |
|--------------------------------------|---|
| Text represented as a screen display | This typeface represents displays that appear on your terminal screen, for example: Login: |

| Typeface Conventions | Description |
|---|--|
| Text represented as commands | <p>This typeface represents commands that you enter, for example:</p> <p>show ip access-list</p> <p>This document always gives the full form of a command in lowercase letters. Commands are not case sensitive.</p> |
| Text represented as a command variable | <p>This typeface represents a variable that is part of a command, for example:</p> <p>show card slot_number</p> <p><i>slot_number</i> is a variable representing the desired chassis slot number.</p> |
| Text represented as menu or sub-menu names | <p>This typeface represents menus and sub-menus that you access within a software application, for example:</p> <p>Click the File menu, then click New</p> |
| Command Syntax Conventions | Description |
| { keyword or <i>variable</i> } | <p>Required keyword options and variables are those components that are required to be entered as part of the command syntax.</p> <p>Required keyword options and variables are surrounded by grouped braces { }. For example:</p> <p>sctp-max-data-chunks { limit <i>max_chunks</i> mtu-limit }</p> <p>If a keyword or variable is not enclosed in braces or brackets, it is mandatory. For example:</p> <p>snmp trap link-status</p> |
| [keyword or <i>variable</i>] | <p>Optional keywords or variables, or those that a user may or may not choose to use, are surrounded by brackets.</p> |

| Command Syntax Conventions | Description |
|----------------------------|---|
| | <p>Some commands support multiple options. These are documented within braces or brackets by separating each option with a vertical bar.</p> <p>These options can be used in conjunction with required or optional keywords or variables. For example:</p> <pre>action activate-flow-detection { intitiation termination }</pre> <p>or</p> <pre>ip address [count <i>number_of_packets</i> size <i>number_of_bytes</i>]</pre> |

Supported Documents and Resources

Related Common Documentation

The following common documents are available:

- *AAA Interface Administration Reference*
- *Command Line Interface Reference*
- *GTPP Interface Administration Reference*
- *Installation Guide* (platform dependant)
- *Release Change Reference*
- *SNMP MIB Reference*
- *System Administration Guide* (platform dependant)
- *Thresholding Configuration Guide*

Related Product Documentation

The most up-to-date information for related products is available in the product Release Notes provided with each product release.

The following related product documents are also available:

- *ADC Administration Guide*
- *CF Administration Guide*
- *ECS Administration Guide*
- *ePDG Administration Guide*
- *GGSN Administration Guide*
- *HA Administration Guide*
- *HSGW Administration Guide*
- *IPSec Reference*
- *MME Administration Guide*

- *MURAL Installation and Administration Guide*
- *NAT Administration Guide*
- *PDSN Administration Guide*
- *PSF Administration Guide*
- *P-GW Administration Guide*
- *SAEGW Administration Guide*
- *SaMOG Administration Guide*
- *SecGW Administration Guide*
- *SGSN Administration Guide*
- *S-GW Administration Guide*

Contacting Customer Support

Use the information in this section to contact customer support.

Refer to the support area of <http://www.cisco.com> for up-to-date product documentation or to submit a service request. A valid username and password are required to access this site. Please contact your Cisco sales or service representative for additional information.



CHAPTER 1

Statistics and Counters Overview



Note The ASR 5000 hardware platform has reached end of life and is not supported in this release. Any references to the ASR 5000 (specific or implied) or its components in this document are coincidental. Full details on the ASR 5000 hardware platform end of life are available at:
<https://www.cisco.com/c/en/us/products/collateral/wireless/asr-5000-series/eos-eol-notice-c51-735573.html>

- [Introduction, on page 1](#)

Introduction

This document organizes and describes various ASR5x00 non-SNMP-MIB forms of dynamic statistics that are output by CLI **show** commands.

The statistics output by **show** commands usually provide a greater degree of granularity than the bulk statistics because:

- the dynamic content is captured at the time the CLI command is entered,
- the command output represents a single element, whereas bulk statistics are often a combination of values for multiple elements,
- the command output can be fine-tuned using keywords included in the **show** command when it is entered.

The types of output statistics are governed by the CLI **show** commands that generate their display. For example, **show power all cards** displays the current power status for each card in every slot of the chassis.

Some of the **show** command outputs display configuration information for reference purposes. For example, **show gs-service full name <service_name>** displays the configuration for the named Gs service.



Important

In Release 21.1 and forward, use the **do show** command to run all Exec Mode **show** commands while in Global Configuration Mode. It is not necessary to exit the Config mode to run a **show** command. The pipe character | is only available if the command is valid in the Exec mode.

Counter Definitions and Disconnect Reasons

In this release, the counters and descriptions are delivered with the companion package in the ASR 5x00 software build. The companion package includes files named **BulkstatStatistics_documentation**.

The companion package includes two formats for the customers to use.

- The .xls file is an easily readable Excel file that can be used to sort and filter the counter information based on schema or other factors.

The .csv file is machine-readable and includes the same data as the .xls file.



CHAPTER 2

show aaa group name

This chapter includes the **show aaa group name** command output tables.

- [show aaa group name, on page 3](#)

show aaa group name

Table 1: show aaa group name Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Group name | The AAA server group name. |
| Context | The context name. |
| Diameter config: | |
| Authentication: | |
| Dictionary | The Diameter dictionary used for authentication. Important The prefix "dynamic-load" is appended to the dictionary name if the dictionary is dynamically configured in AAA group. |
| Endpoint name | The Diameter endpoint used for authentication. |
| Max-transmissions | The maximum number of transmission attempts for Diameter authentication. |
| Max-retries | The number of retry attempts for Diameter authentication requests. |
| Request-timeout | The Diameter authentication request timeout period. |
| Redirect-host-avp | Indicates whether to use just one returned AVP, or use the first returned AVP as selecting the primary host and the second returned AVP as selecting the secondary host. |
| Upgrade-dict-avps | Displays the upgrade-dict-avps attribute value if configured in AAA group. If not configured, this field displays the default value. |

| Field | Description |
|-------------------------------|---|
| Strip-leading-digit user-name | Displays whether or not the stripping of leading digit from User-Name AVP is enabled or disabled. |
| Accounting: | |
| Dictionary | The Diameter dictionary used for accounting. Important The prefix "dynamic-load" is appended to the dictionary name if the dictionary is dynamically configured in AAA group. |
| Endpoint name | The Diameter endpoint used for accounting. |
| Max-transmissions | The maximum number of transmission attempts for Diameter accounting. |
| Max-retries | The number of retry attempts for Diameter accounting requests. |
| Request-timeout | The Diameter accounting request timeout period. |
| HD-mode | Displays the HD-mode value if configured in AAA group. If not configured, this field displays the default value. |
| HD-policy | Displays the HD-storage-policy value if configured in AAA group. If not configured, this field displays the default value. |
| Upgrade-dict-avps | The Diameter accounting request timeout period. |
| SDC-Integrity | Indicates whether or not the SDC Integrity feature is enabled. This feature is used to protect the integrity of SDCs on Rf interface. Important This feature is customer-specific. For more information, contact your Cisco Account representative. |
| Radius Config: | |
| Dictionary | The RADIUS dictionary. |
| Strip-domain | Indicates whether the domain is stripped from the user name prior to authentication or accounting. |
| Authenticator-validation | Indicates whether the MD5 authentication of RADIUS user is enabled. |
| Allow authentication-down | Indicates whether the system allows subscriber sessions when RADIUS authentication is unavailable. |
| Allow accounting-down | Indicates whether the system allows subscriber sessions when RADIUS accounting is unavailable. |
| Attributes: | |

| Field | Description |
|----------------------------------|---|
| Nas-identifier | The attribute name by which the system is identified in Access-Request messages. |
| Nas-ip | The AAA interface IP address(es) used to identify the system. |
| Nas-ip backup | The IP address of the secondary interface to use in the current context. |
| Nexthop | The next hop IP address for this NAS IP address. |
| MPLS-label | Indicates the MPLS label used for traffic from the specified RADIUS client NAS IP address. |
| VRF | The Virtual Routing and Forwarding (VRF) Context instance associated with this AAA group. |
| Authentication | |
| called-station-id | Indicates whether RADIUS authentication attribute for called station id is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| calling-station-id | Indicates whether RADIUS authentication attribute for calling station id is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| imsi | Indicates whether RADIUS authentication attribute for IMSI is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-pdp-type | Indicates whether RADIUS authentication attribute for 3GPP PDP type is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-cg-address | Indicates whether RADIUS authentication attribute for 3GPP CG address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-gprs-qos-negotiated-profile | Indicates whether RADIUS authentication attribute for 3GPP GPRS QoS negotiated profile is enabled. The attribute must also be supported in the configured RADIUS dictionary. |

| Field | Description |
|-------------------------------|--|
| 3gpp-sgsn-address | Indicates whether RADIUS authentication attribute for 3GPP SGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-ggsn-address | Indicates whether RADIUS authentication attribute for 3GPP GGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-imsi-mcc-mnc | Indicates whether RADIUS authentication attribute for 3GPP IMSI MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-ggsn-mcc-mnc | Indicates whether RADIUS authentication attribute for 3GPP GGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-nsapi | Indicates whether RADIUS authentication attribute for 3GPP NSAPI is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-select-mode | Indicates whether RADIUS authentication attribute for 3GPP select mode is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-charging-characteristics | Indicates whether RADIUS authentication attribute for 3GPP charging characteristics is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-sgsn-mcc-mnc | Indicates whether RADIUS authentication attribute for 3GPP SGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-imeisv | Indicates whether RADIUS authentication attribute for 3GPP imeisv is enabled. The attribute must also be supported in the configured RADIUS dictionary. |

| Field | Description |
|-------------------------|---|
| 3gpp-rat-type | Indicates whether RADIUS authentication attribute for 3GPP RAT type is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-user-location-info | Indicates whether RADIUS authentication attribute for 3GPP user location information is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-ms-timezone | Indicates whether RADIUS authentication attribute for 3GPP ms timezone is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| Accounting | |
| called-station-id | Indicates whether RADIUS accounting attribute for called station id is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| calling-station-id | Indicates whether RADIUS accounting attribute for calling station id is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| acct-input-octets | Indicates whether RADIUS accounting attribute for accounting input octets is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| acct-input-packets | Indicates whether RADIUS accounting attribute for accounting input packets is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| acct-session-time | Indicates whether RADIUS accounting attribute for accounting session time is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| acct-output-octets | Indicates whether RADIUS accounting attribute for accounting output octets is enabled. The attribute must also be supported in the configured RADIUS dictionary. |

| Field | Description |
|----------------------------------|---|
| acct-output-packets | Indicates whether RADIUS accounting attribute for accounting output packets is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| event-timestamp | Indicates whether RADIUS accounting attribute for event timestamp is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| imsi | Indicates whether RADIUS accounting attribute for IMSI is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-charging-id | Indicates whether RADIUS accounting attribute for 3GPP charging ID is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-pdp-type | Indicates whether RADIUS accounting attribute for 3GPP PDP type is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-cg-address | Indicates whether RADIUS accounting attribute for 3GPP CG address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-gprs-qos-negotiated-profile | Indicates whether RADIUS accounting attribute for 3GPP GPRS QoS negotiated profile is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-sgsn-address | Indicates whether RADIUS accounting attribute for 3GPP SGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-ggsn-address | Indicates whether RADIUS accounting attribute for 3GPP GGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary. |

| Field | Description |
|-------------------------------|---|
| 3gpp-imsi-mcc-mnc | Indicates whether RADIUS accounting attribute for 3GPP IMSI MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-ggsn-mcc-mnc | Indicates whether RADIUS accounting attribute for 3GPP GGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-nsapi | Indicates whether RADIUS accounting attribute for 3GPP NSAPI is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-select-mode | Indicates whether RADIUS accounting attribute for 3GPP select mode is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-charging-characteristics | Indicates whether RADIUS accounting attribute for 3GPP charging characteristics is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-sgsn-mcc-mnc | Indicates whether RADIUS accounting attribute for 3GPP SGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-imeisv | Indicates whether RADIUS accounting attribute for 3GPP imeisv is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-rat-type | Indicates whether RADIUS accounting attribute for 3GPP RAT type is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| 3gpp-user-location-info | Indicates whether RADIUS accounting attribute for 3GPP user location information is enabled. The attribute must also be supported in the configured RADIUS dictionary. |

| Field | Description |
|----------------------------|--|
| 3gpp-ms-timezone | Indicates whether RADIUS accounting attribute for 3GPP ms timezone is enabled. The attribute must also be supported in the configured RADIUS dictionary. |
| Authentication: | |
| Algorithm | The RADIUS authentication server selection algorithm for the current context. |
| Deadtime | The time period to wait before changing the state of a RADIUS server from "Down" to "Active", in minutes. |
| Max-outstanding | The maximum number of messages a AAA manager will queue. |
| Max-retries | The maximum number of times communication with a AAA server is attempted before it is marked as "Not Responding" and the detect dead server's consecutive failures count is incremented. |
| Max-transmissions | The maximum number of re-transmissions for RADIUS authentication requests. |
| Timeout | The time period to wait for a response from the RADIUS server before re-sending the messages, in seconds. |
| Apn-to-be-included | The APN name included for RADIUS authentication. |
| Authenticate null-username | Indicates whether authentication of user names that are blank or empty is enabled. |
| Probe: | |
| Interval | The time period between two RADIUS authentication probes. |
| Timeout | The timeout period for HAGR to wait for a response for RADIUS authentication probes. |
| Max-retries | The maximum number of retries for RADIUS authentication probe response. |
| Keepalive: | |
| Interval | The time period between two keepalive access requests. |
| Timeout | The time period between two keepalive access request retries. |
| Retries | The number of times the keepalive access request is sent before marking the server as unreachable. |
| consecutive-response | The number of consecutive authentication responses after which the server is marked as reachable. |
| Username | The user name used for authentication. |

| Field | Description |
|----------------------------|---|
| Calling-station-id | The calling station ID used for keepalive authentication. |
| Password | The password used for authentication. |
| Allow access-reject | Indicates whether both access-accept and access-reject are considered as success for the keepalive authentication request. |
| Detect-dead-server: | |
| Consecutive-failures | The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down". |
| Response-timeout | The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds. |
| Keepalive | Indicates whether the AAA server alive-dead detect mechanism based on sending keepalive authentication messages to all authentication servers is enabled. |
| Accounting: | |
| Algorithm | The RADIUS accounting server selection algorithm for the current context. |
| Deadtime | The time period to wait before changing the state of a RADIUS server from "Down" to "Active", in minutes. |
| Fire-And-Forget | Displays whether or not the Fire-and-Forget feature is enabled in the AAA Group configuration. |
| Max-outstanding | The maximum number of messages a AAA manager will queue. |
| Max-retries | The maximum number of times communication with a AAA server will be attempted before it is marked as "Not Responding" and the detect dead server's consecutive failures count is incremented. |
| Max-transmissions | The maximum number of re-transmissions for RADIUS accounting requests. |
| Max-pdu-size | The maximum sized packet data unit which can be accepted/generated, in bytes. |
| Interim-timeout | The timeout period for sending accounting INTERIM-UPDATE records, in seconds. |
| Interim-downlink-volume | The downlink volume limit that triggers RADIUS interim accounting, in bytes. |
| Interim-uplink-volume | The uplink volume limit that triggers RADIUS interim accounting, in bytes. |

| Field | Description |
|------------------------|---|
| Interim-total-volume | The total volume limit for RADIUS interim accounting, in bytes. |
| Timeout | The time period to wait for a response from a RADIUS server before retransmitting a request. |
| Remote-address | Indicates whether remote IP address lists are configured, and collection of accounting data for the addresses in those lists on a per-subscriber basis is enabled. |
| Archive | Indicates whether archiving of RADIUS Accounting messages in the system after the accounting message has exhausted retries to all available RADIUS Accounting servers is enabled. |
| Apn-to-be-included | The APN name included for RADIUS accounting. |
| R-P originated: | |
| Trigger active-start | Indicates whether when an Active-Start is received from the PCF and there has been a parameter change, an R-P event occurs. |
| Trigger active-handoff | Indicates whether when an Active PCF-to-PFC Handoff occurs, a single or two R-P events will occur (one for the Connection Setup, and the second for the Active-Start). |
| Trigger active-stop | Indicates whether when an Active-Stop is received from the PCF, an R-P event occurs. |
| Trigger policy | the overall accounting policy for R-P sessions. |
| Trigger stop-start | Indicates whether a stop/start RADIUS accounting pair is sent to the RADIUS server when an applicable R-P event occurs. |
| Handoff policy | The overall accounting policy for R-P sessions. |
| TOD | The time of day a RADIUS event is generated for accounting. |
| GTP originated: | |
| Trigger policy | The RADIUS accounting policy for GTP. |
| MIP HA: | |
| Policy | The RADIUS accounting policy for Mobile IP HA calls. |
| Keepalive: | |
| Interval | The time period between the two keepalive access requests. |
| Timeout | The time period between each keepalive access request retries. |
| Retries | The number of times the keepalive access request is sent before marking the server as unreachable. |

| Field | Description |
|----------------------------|---|
| consecutive-response | The number of consecutive authentication response after which the server is marked as reachable. |
| Username | The user name used for authentication. |
| Calling-station-id | The calling station ID used for keepalive authentication. |
| Framed-ip-address | The framed-ip-address used for keepalive accounting. |
| Detect-dead-server: | |
| Consecutive-failures | The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down". |
| Response-timeout | The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds. |
| Keepalive | Indicates whether the AAA server alive-dead detect mechanism based on sending keepalive authentication messages to all authentication servers is enabled. |
| Charging: | |
| Auth-algorithm | The RADIUS authentication algorithm. |
| Acct-algorithm | The RADIUS accounting algorithm. |
| Deadtime | The time period to wait before changing the state of a RADIUS server from "Down" to "Active", in minutes. |
| Max-outstanding | The maximum number of messages a AAA manager will queue. |
| Max-retries | The maximum number of times communication with a AAA server will be attempted before it is marked as "Not Responding" and the detect dead server's consecutive failures count is incremented. |
| Max-transmissions | The maximum number of re-transmissions for RADIUS requests. |
| Timeout | The time period to wait for a response from a RADIUS server before retransmitting a request. |
| Detect-dead-server: | |
| Consecutive-failures | The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down". |
| Response-timeout | The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds. |



CHAPTER 3

show access-policy

This chapter includes the **show access-policy** command output tables.

- [show access-policy all](#), on page 15
- [show access-policy full all](#), on page 15

show access-policy all

Table 2: show access-policy all Command Output Descriptions

| Field | Description |
|--------------------|--|
| Access Policy Name | Displays the configured access-policy name(s). |

show access-policy full all

Table 3: show access-policy full all Command Output Descriptions

| Field | Description |
|--------------------|---|
| Access Policy Name | Displays the configured access-policy name(s). For every configured access-policy, the precedence, access-profile, device type, and RAT type are displayed based on the configuration. |



CHAPTER 4

show access-profile

This chapter includes the **show access-profile** command output tables.

- [show access-profile full name <profile_name>](#), on page 17

show access-profile full name <profile_name>

Table 4: show access-profile full name <profile_name> Command Output Descriptions

| Field | Description |
|---------------------|--|
| Access Profile Name | Displays the configured access-profile name. |
| T3422 Timeout | Displays the configured time for T3422 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3450 Timeout | Displays the configured time for T3450 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3460 Timeout | Displays the configured time for T3460 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3470 Timeout | Displays the configured time for T3470 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3485 Timeout | Displays the configured time for T3485 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3486 Timeout | Displays the configured time for T3486 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |

show access-profile full name <profile_name>

| Field | Description |
|-----------------------|---|
| T3489 Timeout | Displays the configured time for T3489 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| T3495 Timeout | Displays the configured time for T3495 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile. |
| Session Setup Timeout | Displays the configured session setup timeout in seconds. Displays "Not Configured" if the session timeout value is not configured in access-profile. |



CHAPTER 5

show active-charging

This chapter includes the **show active-charging** command output tables.

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- [show active-charging analyzer statistics name dns](#), on page 22
- [show active-charging analyzer statistics name h323](#), on page 23
- [show active-charging analyzer statistics name h323 verbose](#), on page 24
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- [show active-charging analyzer statistics name icmpv6](#), on page 29
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show active-charging analyzer statistics name cdp

Table 5: show active-charging analyzer statistics name cdp Command Output Descriptions

| Field | Description |
|----------------------|-------------------------------------|
| CDP Summary: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |

show active-charging analyzer statistics name dns

Table 6: show active-charging analyzer statistics name dns Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| ACS DNS Session Stats: | |
| Total Uplink Bytes | The total number of DNS bytes detected in uplink direction. |
| Total Downlink Bytes | The total number of DNS bytes detected in downlink direction. |
| Total Uplink Pkts | The total number of DNS packets detected in uplink direction. |
| Total Downlink Pkts | The total number of DNS packets detected in downlink direction. |
| Unknown OPCODE | The total number of DNS packets with an unknown operational code. |
| Invalid Pkts | The total number of invalid DNS packets detected. |
| DNS Over TCP: | |
| Uplink Bytes | The total number of DNS uplink bytes that were detected over TCP. |
| Downlink Bytes | The total number of DNS downlink bytes that were detected over TCP. |
| Uplink Pkts | The total number of DNS uplink packets that were detected over TCP. |
| Downlink Pkts | The total number of DNS downlink packets that were detected over TCP. |
| Request: | |
| A Query Type | The total number of DNS requests received for A query types. |
| CNAME Query Type | The total number of DNS requests received for CNAME query types. |
| NS Query Type | The total number of DNS requests received for NS query types. |
| PTR Query Type | The total number of DNS requests received for PTR query types. |
| SRV Query Type | The total number of DNS requests received for SRV query types. |
| Unknown Query Type | The total number of DNS requests received for unknown query types. |
| AAAA Query Type | The total number of DNS requests received for AAAA query types. |

| Field | Description |
|--------------------|---|
| NULL Query Type | The total number of DNS requests received for NULL query types. |
| TXT Query Type | The total number of DNS requests received for TXT query types. |
| Response: | |
| A Query Type | The total number of DNS responses received for A query types. |
| CNAME Query Type | The total number of DNS responses received for CNAME query types. |
| NS Query Type | The total number of DNS responses received for NS query types. |
| PTR Query Type | The total number of DNS responses received for PTR query types. |
| SRV Query Type | The total number of DNS responses received for SRV query types. |
| Unknown Query Type | The total number of DNS responses received for unknown query types. |
| AAAA Query Type | The total number of DNS responses received for AAAA query types. |
| NULL Query Type | The total number of DNS requests received for NULL query types. |
| TXT Query Type | The total number of DNS requests received for TXT query types. |

show active-charging analyzer statistics name h323

Table 7: show active-charging analyzer statistics name h323 Command Output Descriptions

| Field | Description |
|----------------------------|-------------------------------------|
| H323 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Packets | Total number of packets uplinked. |
| Total Downlink Packets | Total number of packets downlinked. |
| Total H323 calls | Total number of H323 calls. |
| Total RAS messages | Total number of RAS messages. |
| Total Q931 messages | Total number of Q931 messages. |
| Total H245 messages | Total number of H245 messages. |

show active-charging analyzer statistics name h323 verbose

Table 8: show active-charging analyzer statistics name h323 verbose Command Output Descriptions

| Field | Description |
|----------------------------|---|
| H323 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Packets | Total number of packets uplinked. |
| Total Downlink Packets | Total number of packets downlinked. |
| Total H323 calls | Total number of H323 calls. |
| Total RAS messages | Total number of RAS messages. |
| Total Q931 messages | Total number of Q931 messages. |
| Total H245 messages | Total number of H245 messages. |
| RAS messages | |
| Uplink | Total number of uplink packets sent from the subscriber for RAS messages. |
| Downlink | Total number of downlink packets sent from the subscriber for RAS messages. |
| GatekeeperRequest | The message sent from the H323 endpoint to find a Gatekeeper. |
| GatekeeperConfirm | The message sent from the Gatekeeper to H323 endpoint which requested for service. |
| GatekeeperReject | The message sent from the Gatekeeper to H323 endpoint indicating that it must try a different Gatekeeper. |
| RegistrationRequest | The message sent from the H323 endpoint to register to a particular Gatekeeper. |
| RegistrationConfirm | The message sent from the Gatekeeper to H323 endpoint indicating that it has been registered. |
| RegistrationReject | The message sent from the Gatekeeper to H323 endpoint indicating that the registration failed. |
| UnregistrationRequest | The message sent from the H323 endpoint to unregister from a particular Gatekeeper. |
| UnregistrationConfirm | The message sent from the Gatekeeper to H323 endpoint indicating that it has been unregistered. |

| Field | Description |
|----------------------|---|
| UnregistrationReject | The message sent from the Gatekeeper to H323 endpoint indicating that unregistration failed. |
| AdmissionRequest | The message sent from the H323 endpoint to a Gatekeeper before accepting or initiating a call. |
| AdmissionConfirm | The message sent from the Gatekeeper to H323 endpoint indicating that the call is allowed. |
| AdmissionReject | The message sent from the Gatekeeper to H323 endpoint indicating that the call is not allowed. |
| LocationRequest | The message sent to the Gatekeeper requesting the transport address of an endpoint. |
| LocationConfirm | The message sent from the Gatekeeper containing the transport address of an endpoint. |
| LocationReject | The message sent from the Gatekeeper indicating that the location request is rejected. |
| DisengageRequest | The message sent from an H323 endpoint to Gatekeeper indicating that the call is getting dropped. |
| DisengageConfirm | The message confirming the DisengageRequest message from the Gatekeeper. |
| DisengageReject | The message sent from the Gatekeeper if an endpoint is not registered. |
| InfoRequest | The message sent from the Gatekeeper to endpoint requesting the status information. |
| InfoRequestResponse | The message sent from the H323 endpoint to Gatekeeper containing the status information. |
| RequestInProgress | The message sent by the Gatekeeper or endpoint to indicate to RAS that it cannot respond in normal processing time. |
| Unclassified | The RAS message that is not classified by the H323 ALG. |
| Q931 messages | |
| Uplink | Total number of uplink packets sent from the subscriber for Q931 messages. |
| Downlink | Total number of downlink packets sent from the subscriber for Q931 messages. |
| Alerting | The message sent by the called user to indicate that alerting has been initiated. |

| Field | Description |
|---------------------------|--|
| CallProceeding | The message sent by an H323 endpoint indicating that it has initiated to set up the call. |
| Setup | The message sent by the calling H323 endpoint to the called H323 endpoint. |
| Connect | The message sent by the called H323 endpoint to the calling H323 endpoint indicating the acceptance of call. |
| ReleaseComplete | The message sent by the called H323 endpoint indicating the release of the call. |
| Facility | The message used to redirect a call or start a new H245 channel. |
| Progress | The message used to indicate the progress of a call. |
| Information | The message sent by the called H323 endpoint to provide additional information for a call. |
| Unclassified | The Q931 message that is not classified by the H323 ALG. |
| H245 messages | |
| Uplink | Total number of uplink packets sent from the subscriber for H245 messages. |
| Downlink | Total number of downlink packets sent from the subscriber for H245 messages. |
| OpenLogicalChannel | The message sent by an H323 endpoint to open a logical connection between two endpoints. |
| OpenLogicalChannelAck | The message sent by an H323 endpoint to accept the connection request in an open logical channel. |
| OpenLogicalChannelReject | The message sent by an H323 endpoint to reject the connection request in an open logical channel. |
| OpenLogicalChannelConfirm | The message sent by an H323 endpoint indicating that the reverse channel is open. |
| RequestChannelClose | The message sent by an H323 endpoint to close an existing logical channel between two endpoints. |
| CloseLogicalChannel | The message sent by an H323 endpoint to close an existing logical channel between two endpoints. |
| CloseLogicalChannelAck | The message sent by an H323 endpoint to confirm the close of a logical channel. |
| EndSessionCommand | The message sent by an H323 endpoint to indicate end of H245 session. |

| Field | Description |
|--------------|--|
| Unclassified | The H245 message that is not classified by the H323 ALG. |

show active-charging analyzer statistics name http

Table 9: show active-charging analyzer statistics name http Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| ACS HTTP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Total Accel Pkts | Total number of accelerated HTTP packets. |
| Uplink Bytes Retrans | The number of uplink bytes that were retransmitted. |
| Downlink Bytes Retrans | Total number of downlink bytes that were retransmitted. |
| Uplink Pkts Retrans | Total number of uplink packets that were retransmitted. |
| Downlink Pkts Retrans | Total number of downlink packets that were retransmitted. |
| Total Request Succeed | Total number of HTTP requests succeeded. |
| Total Request Failed | Total number of HTTP requests failed. |
| GET Requests | Total number of HTTP GET requests. |
| POST Requests | Total number of HTTP POST requests. |
| CONNECT Requests | Total number of HTTP CONNECT requests. |
| PUT requests | Total number of HTTP PUT requests. |
| HEAD requests | Total number of HTTP HEAD requests. |
| Websocket Flows | Total number of websocket flows. |
| Invalid packets | Total number of invalid packets. |
| Wrong FSM packets | Total number of incorrect FSM packets. |
| Unknown request method | Total number of unknown HTTP request methods. |
| Corrupt request packets | Total number of corrupt HTTP request packets. |

| Field | Description |
|---------------------------------------|---|
| Corrupt response packets | Total number of corrupt HTTP response packets. |
| Pipeline overflow requests | Total number of pipeline overflow requests. |
| Unhandled request packets | Total number of unhandled request packets. |
| Unhandled response packets | Total number of unhandled response packets. |
| New requests on closed connection | Total number of new requests on closed connections. |
| Memory allocation failures | Total number of memory allocation failures. |
| Accel Errors | Total number of accelerated errors. |
| Packets after permanent failure | Total number of packets after permanent failure. |
| Total Number of http Video Identified | Total number of HTTP videos identified. |
| Number of Flash Video Identified | Total number of Flash videos identified. |
| Number of Isom (MP4) Video Identified | Total number of Isom (MP4) videos identified. |
| Number of WMV Video Identified | Total number of WMV videos identified. |
| Number of MOOV Video Identified | Total number of MOOV videos identified. |
| Number of AVI Video Identified | Total number of AVI videos identified. |
| Number of HLS Video Identified | Total number of HLS videos identified. |
| Number of MSS Video Identified | Total number of MSS videos identified. |
| Number of MPEG TS Video Identified | Total number of MPEG TS videos identified. |
| Response Based TRM | |
| GET | Total number of HTTP GET methods that had response-based TRM applied. |
| POST | Total number of HTTP POST methods that had response-based TRM applied. |
| CONNECT | Total number of HTTP CONNECT methods that had response-based TRM applied. |
| PUT | Total number of HTTP PUT methods that had response-based TRM applied. |
| HEAD | Total number of HTTP HEAD methods that had response-based TRM applied. |
| OPTION | Total number of HTTP OPTION methods that had response-based TRM applied. |

| Field | Description |
|--------------------------------|--|
| DELETE | Total number of HTTP DELETE methods that had response-based TRM applied. |
| TRACE | Total number of HTTP TRACE methods that had response-based TRM applied. |
| Websocket | Total number of HTTP Websocket methods that had response-based TRM applied. |
| Response Based Charging | |
| GET | Total number of HTTP GET methods that had response-based charging applied. |
| POST | Total number of HTTP POST methods that had response-based charging applied. |
| CONNECT | Total number of HTTP CONNECT methods that had response-based charging applied. |
| PUT | Total number of HTTP PUT methods that had response-based charging applied. |
| HEAD | Total number of HTTP HEAD methods that had response-based charging applied. |
| OPTION | Total number of HTTP OPTION methods that had response-based charging applied. |
| DELETE | Total number of HTTP DELETE methods that had response-based charging applied. |
| TRACE | Total number of HTTP TRACE methods that had response-based charging applied. |
| Websocket | Total number of HTTP Websocket methods that had response-based charging applied. |

show active-charging analyzer statistics name icmpv6

Table 10: show active-charging analyzer statistics name icmpv6 Command Output Descriptions

| Field | Description |
|----------------------------------|-----------------------------------|
| ACS ICMPv6 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |

| Field | Description |
|---------------------------|--|
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Bytes Fragmented | Total number of uplink bytes that were fragmented. |
| Downlink Bytes Fragmented | Total number of downlink bytes that were fragmented. |
| Uplink Pkts Fragmented | Total number of uplink packets that were fragmented. |
| Downlink Pkts Fragmented | Total number of downlink packets that were fragmented. |
| Uplink Bytes Invalid | Total number of invalid uplink bytes. |
| Downlink Bytes Invalid | Total number of invalid downlink bytes. |
| Uplink Pkts Invalid | Total number of invalid uplink packets. |
| Downlink Pkts Invalid | Total number of invalid downlink packets. |

show active-charging analyzer statistics name ip verbose

Table 11: show active-charging analyzer statistics name ip verbose Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| ACS IP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Bytes Fragmented | Total number of uplink bytes that were fragmented. |
| Downlink Bytes Fragmented | Total number of downlink bytes that were fragmented. |
| Uplink Pkts Fragmented | Total number of uplink packets that were fragmented. |
| Downlink Pkts Fragmented | Total number of downlink packets that were fragmented. |
| Uplink Bytes Invalid Length | Total number of uplink bytes of invalid length. |
| Downlink Bytes Invalid Length | Total number of downlink bytes of invalid length. |
| Uplink Pkts Invalid Length | Total number of uplink packets of invalid length. |
| Downlink Pkts Invalid Length | Total number of downlink packets of invalid length. |

| Field | Description |
|---|--|
| Uplink Bytes Invalid Length (After Reassembly) | Total number of uplink bytes of invalid length after reassembly. |
| Downlink Bytes Invalid Length (After Reassembly) | Total number of downlink bytes of invalid length after reassembly. |
| Uplink Pkts Invalid Length (After Reassembly) | Total number of uplink packets of invalid length after reassembly. |
| Downlink Pkts Invalid Length (After Reassembly) | Total number of downlink packets of invalid length after reassembly. |
| Uplink Bytes Invalid Version | Total number of uplink bytes of invalid version. |
| Downlink Bytes Invalid Version | Total number of downlink bytes of invalid version. |
| Uplink Pkts Invalid Version | Total number of uplink packets of invalid version. |
| Downlink Pkts Invalid Version | Total number of downlink packets of invalid version. |
| Uplink Bytes Invalid Checksum | Total number of bytes received in uplink direction with invalid checksum errors. |
| Downlink Bytes Invalid Checksum | Total number of bytes received in downlink direction with invalid checksum errors. |
| Uplink Pkts Invalid Checksum | Total number of packets received in uplink direction with invalid checksum errors. |
| Downlink Pkts Invalid Checksum | Total number of packets received in downlink direction with invalid checksum errors. |
| Uplink Bytes IP reassembly Timeout | Total number of bytes in uplink traffic dropped due to IP reassembly timeout. |
| Uplink Pkts IP reassembly Timeout | Total number of packets in uplink traffic dropped due to IP reassembly timeout. |
| Downlink Bytes IP reassembly Timeout | Total number of bytes in downlink traffic dropped due to IP reassembly timeout. |
| Downlink Pkts IP reassembly Timeout | Total number of packets in downlink traffic dropped due to IP reassembly timeout. |
| Uplink Bytes IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in uplinked bytes reassembly. |
| Uplink Pkts IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in uplinked packets reassembly. |
| Downlink Bytes IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in downlinked bytes reassembly. |
| Downlink Pkts IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in downlinked packets reassembly. |
| Uplink Bytes received after reassembly | Total number of uplink bytes received after reassembly. |

| Field | Description |
|--|---|
| Uplink Pkts received after reassembly | Total number of uplink packets received after reassembly. |
| Downlink Bytes received after reassembly | Total number of downlink bytes received after reassembly. |
| Downlink Pkts received after reassembly | Total number of downlink packets received after reassembly. |

show active-charging analyzer statistics name ipv6

Table 12: show active-charging analyzer statistics name ipv6 Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| ACS IPv6 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Bytes Fragmented | Total number of uplink bytes that were fragmented. |
| Downlink Bytes Fragmented | Total number of downlink bytes that were fragmented. |
| Uplink Pkts Fragmented | Total number of uplink packets that were fragmented. |
| Downlink Pkts Fragmented | Total number of downlink packets that were fragmented. |
| Uplink Bytes Invalid | Total number of invalid uplink bytes. |
| Downlink Bytes Invalid | Total number of invalid downlink bytes. |
| Uplink Pkts Invalid | Total number of invalid uplink packets. |
| Downlink Pkts Invalid | Total number of invalid downlink packets. |

show active-charging analyzer statistics name ipv6 verbose

Table 13: show active-charging analyzer statistics name ipv6 verbose Command Output Descriptions

| Field | Description |
|--------------------------------|---------------------------------|
| ACS IPv6 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |

| Field | Description |
|---|---|
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Bytes Fragmented | Total number of uplink bytes that were fragmented. |
| Downlink Bytes Fragmented | Total number of downlink bytes that were fragmented. |
| Uplink Pkts Fragmented | Total number of uplink packets that were fragmented. |
| Downlink Pkts Fragmented | Total number of downlink packets that were fragmented. |
| Uplink Bytes Invalid Length | Total number of uplink bytes of invalid length. |
| Downlink Bytes Invalid Length | Total number of downlink bytes of invalid length. |
| Uplink Pkts Invalid Length | Total number of uplink packets of invalid length. |
| Downlink Pkts Invalid Length | Total number of downlink packets of invalid length. |
| Uplink Bytes Invalid Length (After Reassembly) | Total number of uplink bytes of invalid length after reassembly. |
| Downlink Bytes Invalid Length (After Reassembly) | Total number of downlink bytes of invalid length after reassembly. |
| Uplink Pkts Invalid Length (After Reassembly) | Total number of uplink packets of invalid length after reassembly. |
| Downlink Pkts Invalid Length (After Reassembly) | Total number of downlink packets of invalid length after reassembly. |
| Uplink Bytes IP reassembly Timeout | Total number of bytes in uplink traffic dropped due to IP reassembly timeout. |
| Uplink Pkts IP reassembly Timeout | Total number of packets in uplink traffic dropped due to IP reassembly timeout. |
| Downlink Bytes IP reassembly Timeout | Total number of bytes in downlink traffic dropped due to IP reassembly timeout. |
| Downlink Pkts IP reassembly Timeout | Total number of packets in downlink traffic dropped due to IP reassembly timeout. |
| Uplink Bytes IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in uplinked bytes reassembly. |
| Uplink Pkts IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in uplinked packets reassembly. |
| Downlink Bytes IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in downlinked bytes reassembly. |
| Downlink Pkts IP reassembly Max. Fragments reached | Total number of times Max fragments was reached in downlinked packets reassembly. |

show active-charging analyzer statistics name mipv6

Table 14: show active-charging analyzer statistics name mipv6 Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| ACS MIPv6 Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total PBU Intercepted | Total number of Proxy Binding Update (PBU) messages intercepted. |
| Total PBU Modified | Total number of modified Proxy Binding Update (PBU) messages. |
| Total PBU Discarded | Total number of discarded Proxy Binding Update (PBU) messages. |

show active-charging analyzer statistics name p2p protocol-group

Table 15: show active-charging analyzer statistics name p2p protocol-group Command Output Descriptions

| Field | Description |
|---------------------------|---|
| ACS P2P Stats: | |
| Generic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Anonymous - access | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business | |

| Field | Description |
|---------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-news | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-----------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-gaming | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-videoconf | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-----------------|---|
| Untagged | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

show active-charging analyzer statistics name p2p protocol-group verbose

Table 16: show active-charging analyzer statistics name p2p protocol-group verbose Command Output Descriptions

| Field | Description |
|--|---|
| ACS P2P Stats: | |
| Generic-non-p2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Generic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Anonymous-access-tor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Anonymous-access-yourfreetunnel | |

| Field | Description |
|-------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Anonymous-access-jap | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Anonymous-access-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-openft | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-actsync | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-kontiki | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Business-blackberry | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-citrix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-webex | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-gotomeeting | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-adobeconnect | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-Cisco-jabber | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Business-total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-skype | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-msn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-yahoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-jabber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------------------|---|
| Communicator-qq | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-gadugadu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-oscar | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-popo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-irc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-iskoot | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-fring | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-gtalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-nimbuzz | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-paltalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-meebo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-truphone | |

| Field | Description |
|-------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-teamspeak | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-facetime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-viber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-imo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-tango | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-scydo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-whatsapp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-mypeople | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-implus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-ebuddy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-ficall | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-mig33 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-goerber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-kakaotalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-nateontalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-naverline | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------------------|---|
| Communicator-wechat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-voipdiscount | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-vopium | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-plingm | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-magicjack | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-smartvoip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-rynga | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-icall | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-actionvoip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-jumblo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-talkatone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-behavioral-voip | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-imessage | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-sudaphone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-blackdialer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-vtok | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-heyteell | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-voxe | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-Lync | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-behavioral-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-didi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-hike-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-----------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-kik-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-upc-phone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Communicator-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-wuala | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-icloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-amazoncloud | |
| Uplink Bytes | The total number of bytes uplinked. |

show active-charging analyzer statistics name p2p protocol-group verbose

| Field | Description |
|--|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-skydrive | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-dropbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-bitcasa | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-clubbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-----------------------------|---|
| Cloud-Bittorent-sync | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-mozy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-opendrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-windows-azure | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-idrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cloud-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-gmail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-mapi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-yahoomail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-outlook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-telegram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-mail-Total | |

| Field | Description |
|---------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-news-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-apple-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-blackberry-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-itunes | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-googleplay | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|------------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| E-store-nokia-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-samsung-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-windows-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| E-store-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-hamachivpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-vpnx | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-vtun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-isakmp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-netmotion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-openvpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-tunnelvoice | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|--|---|
| Internet-privacy-comodounite | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-ultrasurf | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-cyberghost | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-siri | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-softether | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-hotspotvpn | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Internet-privacy-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-ddlink | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-aimini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-ultrabac | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-upload | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|--|---|
| Filesharing-download | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-flickr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filesharing-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-steam | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-halflife2 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-wofwarcraft | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-xbox | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-battlefld | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-qqgame | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-quake | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-warcraft3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|---------------------------|---|
| Gaming-armagettron | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-clubpenguin | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-crossfire | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-dofus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-fiesta | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-florensia | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-----------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-guildwars | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-maplestory | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-ps3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-rfacto | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-splashfighter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-wii | |

show active-charging analyzer statistics name p2p protocol-group verbose

| Field | Description |
|--------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-wofkungfu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-callofduty | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-twitch | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gaming-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Maps-igo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-------------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Maps-mapfactor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Maps-navigon | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Maps-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-winny | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-mute | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-freenet | |
| Uplink Bytes | The total number of bytes uplinked. |

show active-charging analyzer statistics name p2p protocol-group verbose

| Field | Description |
|--|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-stealthnet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-antsp2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-anon-filesharing-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-bittorrent | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-edonkey | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------------------|---|
| P2P-filesharing-gnutella | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-fasttrack | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-manolito | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-pando | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-filetopia | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-soulseek | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|--------------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-applejuice | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-ares | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-directconnect | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-imesh | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-winx | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-thunder | |

| Field | Description |
|---------------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-off | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-xdcc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-mojo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-thunderhs | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-behavioral-p2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--|---|
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-rodri | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| P2P-filesharing-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control-skinny | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control-rdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control-teamviewer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control-pcanywhere | |

| Field | Description |
|------------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Remote-control-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-gaming-secondlife | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-gaming-gamekit | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-gaming-friendster | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-gaming-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|------------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-facebook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-myspace | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-twitter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-instagram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-pinterest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-linkedin | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-poco | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-snapchat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-googleplus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-hyves | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-tumblr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-------------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-badoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-vine | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-foursquare | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-path | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-weibo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-tagged | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-xing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-generic-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-videoconf-oovoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Social-nw-videoconf-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-iax | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------------|---|
| Standard-mgcp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-ssdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-stun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-usenet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-flash | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-msrp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-----------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-rdt | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-spdy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-google | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-silverlight | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-ssl | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Standard-Total | |

| Field | Description |
|---------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-orb | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-slingbox | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-ppstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-qqlive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-feidian | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-zattoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-sopcast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-pplive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-tvants | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-tvuplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-uusec | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-iptv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-pandora | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-icecast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-shoutcast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-funshion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------------|---|
| Streaming-octoshape | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-rmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-veohtv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-wmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-ogg | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-quicktime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|---------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-spotify | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-netflix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-oplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-avi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-soribada | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-kugou | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-ustream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-svtplay | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-kuro | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-youtube | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-baidumovie | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |

| Field | Description |
|-------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-monkey3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-Hls | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-Youku | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-hulu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-google-music | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|---------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-rhapsody | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-hbogo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-iheartradio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-radio-paradise | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-beatport | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-soundcloud | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-amazonmusic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-slingtv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-vessel | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-vudu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-go90 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------------|---|
| Streaming-Espn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-Crackle | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-Hbonow | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Streaming-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-operamini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-truecaller | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-applemaps | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-waze | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-apple-push | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-google-push | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-speedtest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-slacker-radio | |

| Field | Description |
|-----------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Untagged-Total | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

show active-charging analyzer statistics name p2p

Table 17: show active-charging analyzer statistics name p2p Command Output Descriptions

| Field | Description |
|-----------------------|---|
| ACS P2P Stats: | |
| Skype | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bittorrent | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Edonkey | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-----------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Msn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Yahoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Orb | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gnutella | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jabber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Slingbox | |

| Field | Description |
|------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Winy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Fasttrack | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Manolito | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pando | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Filetopia | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-----------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Soulseek | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ppstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qq | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qqlive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mute | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gadugadu | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Feidian | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Applejuice | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Zattoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Skinny | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Sopcast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------|---|
| Ares | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Directconnect | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Imesh | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pplive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oscar | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Popo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Irc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Steam | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ddlink | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Halfife2 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hamachivpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tvants | |

| Field | Description |
|------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tvuplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Uusec | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vpnx | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Winmx | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Wofwarcraft | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xbox | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iskoot | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Fring | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oovoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gtalk | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Freenet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Aimini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Battlefld | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Openft | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qqgame | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------|---|
| Quake | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Secondlife | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actsyc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nimbuzz | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iax | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Paltalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Warcraft3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iptv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pandora | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icecast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kontiki | |

| Field | Description |
|--------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Meebo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Shoutcast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Truphone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Thunder | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Armagettron | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Blackberry | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Citrix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Clubpenguin | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crossfire | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Dofus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Fiesta | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Florensia | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Funshion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Guildwars | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Isakmp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Maplestory | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------|---|
| Mgcp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Octoshape | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Off | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ps3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rfactor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|----------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Splashfighter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ssdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Stealthnet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Stun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Teamspeak | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tor | |

| Field | Description |
|------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| VeohTV | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wii | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wofkungfu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xdcc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-----------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Yourfreetunnel | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gamekit | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facetime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gmail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Itunes | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Myspace | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Teamviewer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Twitter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Viber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Antsp2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------|---|
| Imo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Netmotion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ogg | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Openvpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Quicktime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Spotify | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|--------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tango | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ultrabac | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Usenet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tunnelvoice | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Scydo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Whatsapp | |

| Field | Description |
|-------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Flash | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mojo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pcanywhere | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mypeople | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Webex | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Netflix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Implus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ebuddy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Msrp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ficall | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gotomeeting | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mig33 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Comodounite | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Goober | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Operamini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------|---|
| Rdt | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kakaotalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nateontalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Naverline | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Callofduty | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Thunderhs | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Avi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wuala | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wechat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Soribada | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Googleplay | |

| Field | Description |
|---------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kugou | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Instagram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voipdiscount | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vopium | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Plingm | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Pinterest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Magicjack | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Spdy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Amazoncloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Smartvoip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rynga | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icall | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actionvoip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jumblo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Talkatone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mapi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------------|---|
| Behavioral-p2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-voip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-upload | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-download | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Imessage | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Linkedin | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Poco | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ultrasurf | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Snapchat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Truecaller | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cyberghost | |

| Field | Description |
|---------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Googleplus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Adobeconnect | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ustream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Siri | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Softether | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--|---|
| Downlink Pkts | The total number of packets downlinked. |
| Sudaphone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Svtplay | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hyves | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Silverlight | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackdialer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rodi | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Skydrive | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtok | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Flickr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kuro | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--|---|
| Downlink Pkts | The total number of packets downlinked. |
| Dropbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Heytell | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bitcasa | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Clubbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tumblr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Youtube | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voxer | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hotspotvpn | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Applemaps | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|---------------------------------|---|
| Badoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Foursquare | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jap | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Monkey3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Outlook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vine | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Yahoomail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm unclassified | |

| Field | Description |
|------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Box | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Chikka | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Imgur | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oist | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Oist unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Regram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Regram unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vchat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bittorrent-sync | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|---------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hls | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|---------------------------|---|
| Lync audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync file-transfer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Path | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Waze | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Youku | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Apple-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackberry-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hulu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Igo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mapfactor | |

| Field | Description |
|----------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mozy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Navigon | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nokia-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Opendrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Samsung-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Weibo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Windows-azure | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Windows-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Apple-push | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Didi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Friendster | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-----------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google-music | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google-push | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hike-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Idrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kik-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------|---|
| Tagged | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Telegram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rhapsody | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Speedtest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Twitch | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbogo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iheartradio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Slacker-radio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone-unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone-audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone | |

| Field | Description |
|-----------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Radio-Paradise | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Amazonmusic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ssl | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Slingtv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vessel | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--|---|
| Downlink Pkts | The total number of packets downlinked. |
| Vudu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Go90 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Espn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crackle | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbonow | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Beatport / Soundcloud / 8tracks/ Quic / Tunein-radio / Periscope / Amazonvideo / Showtime / Vevo / Mlb / Starz / Tmo-tv / Hgtv / Nbc-sports / Univision / Dish-anywhere / Fox-sports / Newsy / Fandor | |

| Field | Description |
|----------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

show active-charging analyzer statistics name p2p verbose

Table 18: show active-charging analyzer statistics name p2p verbose Command Output Descriptions

| Field | Description |
|---|---|
| Non-P2P | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skype-non-voice | |
| Important The following counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skype-voice | |
| Important The following counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skype-non-voice | |
| Important The following counters are available only for release 11.0. | |

| Field | Description |
|---|---|
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skype-others | |
| Important The following counters are available only for 12.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skype-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Bittorrent | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Edonkey | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-non-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |

| Field | Description |
|---|---|
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-video | |
| Important These counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-non-a/v | |
| Important These counters are available only for release 11.0. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-others | |
| Important These counters are available only for release 12.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |

| Field | Description |
|---|---|
| Downlink Pkts: | The total number of packets downlinked. |
| Msn-audio | |
| Important These counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-non-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-non-audio | |
| Important The following counters are available only for release 11.0. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-video | |
| Important These counters are available only for 12.0 and earlier releases. | |

| Field | Description |
|---|---|
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-others | |
| Important These counters are available only for 12.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Yahoo-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Orb | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Gnutella | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Jabber | |
| Uplink Bytes: | The total number of bytes uplinked. |

| Field | Description |
|------------------|---|
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Slingbox | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Winy | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Fasttrack | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Manolito | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Pando | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |

| Field | Description |
|------------------------|---|
| Filetopia | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Soulseek | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Ppstream | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Qq | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Qq unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qq audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qq video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Qqlive | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Mute | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Gadugadu | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Feidian | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Applejuice | |

| Field | Description |
|----------------------|---|
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Zattoo | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Skinny | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Sopcast | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Ares | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Directconnect | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |

| Field | Description |
|---|---|
| Downlink Pkts: | The total number of packets downlinked. |
| Imesh | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Pplive | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Oscar | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oscar-non-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oscar-voice | |
| Important These counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|---|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oscar-non-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Oscar-video | |
| Important These counters are available only for 12.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Oscar-others | |
| Important These counters are available only for 12.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Oscar-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Popo | |

| Field | Description |
|-------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Irc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Steam | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ddlink | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Halfife2 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hamachivpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Tvants | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tvuplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Uusee | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vpnx | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Winmx | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wofwarcraft | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xbox | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iskoot | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Fring | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oovoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|---|---|
| Gtalk-non-voice | |
| Important The following counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gtalk-voice | |
| Important The following counters are available only for 10.0 and earlier releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gtalk-non-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gtalk-video | |
| Important These counters are available only for 12.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Gtalk-others | |
| Important These counters are available only for 12.0 and earlier releases. | |
| Uplink Bytes: | The total number of bytes uplinked. |

| Field | Description |
|---|---|
| Downlink Bytes: | The total number of bytes downlinked. |
| Uplink Pkts: | The total number of packets uplinked. |
| Downlink Pkts: | The total number of packets downlinked. |
| Gtalk-audio | |
| Important The following counters are available only for 11.0 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Freenet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Aimini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Battlefld | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Openft | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Qqgame | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Quake | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Secondlife | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actsycn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nimbuzz | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iax | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Paltalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Warcraft3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iptv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Uplink Bytes | The total number of bytes uplinked. |
| Pandora unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Pandora ads | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pandora | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icecast | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kontiki | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Meebo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Shoutcast | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Truphone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Thunder | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Armagettron | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackberry | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Citrix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Clubpenguin | |

| Field | Description |
|------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crossfire | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Dofus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Fiesta | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Florensia | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Funshion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Guildwars | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Isakmp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Maplestory | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mgcp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Octoshape | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Off | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ps3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rfactor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Splashfighter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ssdp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------|---|
| Stealthnet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Stun | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Teamspeak | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Veoh tv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wii | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-----------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wmstream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wofkungfu | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xdcc | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Yourfreetunnel | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gamekit | |

| Field | Description |
|------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facetime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facetime unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facetime audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facetime video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gmail | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Itunes | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Myspace | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Teamviewer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Twitter | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Twitter streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Viber | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|---------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Viber unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Viber audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Antsp2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Imo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Netmotion | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|------------------|---|
| Ogg | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Openvpn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Quicktime | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Spotify | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tango | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ultrabac | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|--------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Usenet | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tunnelvoice | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Scydo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Whatsapp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| MyPeople | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| RDT | |

| Field | Description |
|-------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Flash | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mojo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pcanywhere | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Webex | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Netflix | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Implus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ebuddy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Msrp | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ficall | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Gotomeeting | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mig33 | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|--------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Comodounite | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Goober | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iplayer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Operamini | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kakaotalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------------------|---|
| Kakaotalk Audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kakaotalk Unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nateontalk | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Naverline | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Callofduty | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Thunderhs | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Avi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wuala | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Wechat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Soribada | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Googleplay | |

| Field | Description |
|----------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kugoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Instagram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voipdiscount | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voipdiscount unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voipdiscount audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Vopium | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vopium unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vopium audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Plingm | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Plingm unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Plingm audio | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Pinterest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Magicjack | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Magicjack unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Magicjack audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Spdy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------------------|---|
| Amazoncloud | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Smartvoip | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Smartvoip unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Smartvoip audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rynga | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rynga unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|---------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rynga audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icall | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icall unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icall audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Icall video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actionvoip | |

| Field | Description |
|--------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actionvoip unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Actionvoip audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jumblo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jumblo unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jumblo audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-------------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Talkatone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Talkatone unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Talkatone audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mapi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-p2p | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-voip | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-upload | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-download | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Imessage | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Linkedin | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|-------------------|---|
| Poco | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ultrasurf | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Snapchat | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Truecaller | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cyberghost | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Googleplus | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|---------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Adobeconnect | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Ustream | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Siri | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Softether | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Sudaphone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Svtplay | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hyves | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Silverlight | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackdialer-unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackdialer-audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rodi | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|--|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Skydrive | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtok-unclassified | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtok-audio | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vtok-video | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Flickr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kuro | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Dropbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Heytell | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bitcasa | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|--|---|
| Downlink Pkts | The total number of packets downlinked. |
| Clubbox | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tumblr | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Youtube | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Voxer | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hotspotvpn | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |

| Field | Description |
|--|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Baidumovie | |
| Important The statistics for this protocol is supported from ADC plugin 1.5 and later releases. | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Applemaps | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Badoo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Facebook unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Foursquare | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Jap | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Monkey3 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Outlook | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vine | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| YahooMail | |

| Field | Description |
|-------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bbm audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Box | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Chikka | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Imgur | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oist | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Oist unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Regram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Regram unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vchat | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|----------------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Bittorrent-sync | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Cisco-jabber | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|---------------------------|---|
| Hls | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Lync file-transfer | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Path | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|-------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Waze | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Youku | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Behavioral-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Apple-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Blackberry-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hulu | |

| Field | Description |
|--------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Igo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mapfactor | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Mozy | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Navigon | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Nokia-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|----------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Opendrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Samsung-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Weibo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Windows-azure | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Windows-store | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Apple-push | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-----------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Didi | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Friendster | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google-music | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Google-push | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hike-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|----------------------|---|
| Idrive | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Kik-messenger | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Tagged | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Telegram | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Xing | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Rhapsody | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|---------------------------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Speedtest | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Twitch | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbogo | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iheartradio unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iheartradio ads | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Iheartradio | |

| Field | Description |
|-------------------------------|---|
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Slacker-radio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone-unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone-audio | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Upc-phone | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Radio-Paradise | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |

| Field | Description |
|-----------------------------|---|
| Downlink Pkts | The total number of packets downlinked. |
| Amazonmusic | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Slingtv | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vessel | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vudu unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vudu streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Vudu | |
| Uplink Bytes | The total number of bytes uplinked. |

| Field | Description |
|-----------------------------|---|
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Go90 unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Go90 streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Go90 | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Espn unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Espn streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

| Field | Description |
|--------------------------------|---|
| Espn | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crackle unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crackle streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Crackle | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbonow unclassified | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbonow streaming-video | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |

| Field | Description |
|----------------|---|
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |
| Hbonow | |
| Uplink Bytes | The total number of bytes uplinked. |
| Downlink Bytes | The total number of bytes downlinked. |
| Uplink Pkts | The total number of packets uplinked. |
| Downlink Pkts | The total number of packets downlinked. |

show active-charging analyzer statistics name pptp

Table 19: show active-charging analyzer statistics name pptp Command Output Descriptions

| Field | Description |
|------------------------------------|---------------------------------------|
| ACS PPTP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Total GRE Sessions | Total number of GRE sessions. |
| Invalid PPTP Pkts | Total number of invalid PPTP packets. |
| Unknown PPTP Pkts | Total number of unknown PPTP packets. |
| ACS PPTP-GRE Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |

show active-charging analyzer statistics name rtp

Table 20: show active-charging analyzer statistics name rtp Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| ACS RTP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Total Accel Pkts | Total number of accelerated RTP packets. |

show active-charging analyzer statistics name sip

Table 21: show active-charging analyzer statistics name sip Command Output Descriptions

| Field | Description |
|---------------------------|---|
| SIP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Valid Bytes | Total number of valid bytes uplinked. |
| Downlink Valid Bytes | Total number of valid bytes downlinked. |
| Uplink Valid Pkts | Total number of valid packets uplinked. |
| Downlink Valid Pkts | Total number of valid packets downlinked. |
| Uplink Retry Bytes | Total number of retry bytes uplinked. |
| Downlink Retry Bytes | Total number of retry bytes downlinked. |
| Uplink Retry Pkts | Total number of retry packets uplinked. |
| Downlink Retry Pkts | Total number of retry packets downlinked. |
| Uplink Error Bytes | Total number of error bytes uplinked. |

| Field | Description |
|-----------------------------------|--|
| Downlink Error Bytes | Total number of error bytes downlinked. |
| Uplink Error Pkts | Total number of error packets uplinked. |
| Downlink Error Pkts | Total number of error packets downlinked. |
| SIP Calls | Total number of SIP calls. |
| SIP Advanced Session Stats | |
| Total Uplink Bytes | Total uplink bytes processed by SIP ALG. |
| Total Downlink Bytes | Total downlink bytes processed by SIP ALG. |
| Total Uplink Packets | Total uplink packets processed by SIP ALG. |
| Total Downlink Packets | Total downlink packets processed by SIP ALG. |
| Total SIP Calls | Total number of active SIP calls processed by SIP ALG. |
| Current SIP Calls | Current number of active SIP calls processed by SIP ALG. |
| Total SIP UDP Calls | Total number of SIP UDP calls processed by SIP ALG. |
| Current SIP UDP Calls | Current number of SIP UDP calls processed by SIP ALG. |
| Total SIP TCP Calls | Total number of SIP TCP calls processed by SIP ALG. |
| Current SIP TCP Calls | Current number of SIP TCP calls processed by SIP ALG. |

| Field | Description |
|-------------------|--|
| SIP Request | <p>Displays the following SIP Requests.</p> <ul style="list-style-type: none"> • Register: Total REGISTER requests. • Invite: Total INVITE requests. • Ack: Total ACK requests. • Bye: Total BYE requests. • Info: Total INFO requests. • Prack: Total PRACK requests. • Refer: Total REFER requests. • Cancel: Total CANCEL requests. • Update: Total UPDATE requests. • Message: Total MESSAGE requests. • Options: Total OPTIONS requests. • Publish: Total PUBLISH requests. • Subscribe: Total SUBSCRIBE requests. • Notify: Total NOTIFY requests. |
| Total Received | Total number of SIP requests received by SIP ALG. |
| Total Transmitted | Total number of SIP requests transmitted by SIP ALG. |
| Retransmitted | Total number of SIP requests retransmitted by SIP ALG. |
| SIP Response | <p>Displays the following SIP Responses.</p> <ul style="list-style-type: none"> • 1XX: Total 1xx responses. • 2XX: Total 2xx responses. • 3XX: Total 3xx responses. • 4XX: Total 4xx responses. • 5XX: Total 5xx responses. • 6XX: Total 6xx responses. |
| Total Received | Total number of SIP responses received by SIP ALG. |
| Total Transmitted | Total number of SIP responses transmitted by SIP ALG. |
| Retransmitted | Total number of SIP responses retransmitted by SIP ALG. |

show active-charging analyzer statistics name sip verbose

Table 22: show active-charging analyzer statistics name sip verbose Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| ACS SIP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Uplink Valid Pkts | Total number of valid packets uplinked. |
| Downlink Valid Pkts | Total number of valid packets downlinked. |
| Uplink Retry Pkts | Total number of retry packets uplinked. |
| Downlink Retry Pkts | Total number of retry packets downlinked. |
| Uplink Error Pkts | Total number of error packets uplinked. |
| Downlink Error Pkts | Total number of error packets downlinked. |
| Total SIP Calls | Total number of SIP calls. |
| Total SIP TCP Flows | Total number of SIP TCP flows. |
| Current SIP TCP Flows | Current number of SIP TCP flows. |
| Total SIP UDP Flows | Total number of SIP UDP flows. |
| Current SIP UDP Flows | Current number of SIP UDP flows. |

| Field | Description |
|----------------------------|---|
| SIP Request | Displays the following SIP Requests. <ul style="list-style-type: none"> • INVITE Requests • ACK Requests • REGISTER Requests • BYE Requests • CANCEL Requests • PRACK Requests • MESSAGE Requests • OPTIONS Requests • SUBSCRIBE Requests • REFER Requests • UPDATE Requests • INFO Requests • PUBLISH Requests • NOTIFY Requests |
| Total | Total number of SIP requests received by ECS SIP analyzer. |
| Retransmitted | Total number of SIP requests retransmitted by ECS SIP analyzer. |
| SIP Response | Displays the following SIP Responses. <ul style="list-style-type: none"> • 1xx • 2xx • 3xx • 4xx • 5xx • 6xx |
| Total | Total number of SIP responses received by ECS SIP analyzer. |
| Retransmitted | Total number of SIP responses retransmitted by ECS SIP analyzer. |
| SIP Advanced Session Stats | |
| Total Uplink Bytes | Total uplink bytes processed by SIP ALG. |
| Total Downlink Bytes | Total downlink bytes processed by SIP ALG. |

| Field | Description |
|------------------------|--|
| Total Uplink Packets | Total uplink packets processed by SIP ALG. |
| Total Downlink Packets | Total downlink packets processed by SIP ALG. |
| Total SIP Calls | Total number of active SIP calls processed by SIP ALG. |
| Current SIP Calls | Current number of active SIP calls processed by SIP ALG. |
| Total SIP UDP Calls | Total number of SIP UDP calls processed by SIP ALG. |
| Current SIP UDP Calls | Current number of SIP UDP calls processed by SIP ALG. |
| Total SIP TCP Calls | Total number of SIP TCP calls processed by SIP ALG. |
| Current SIP TCP Calls | Current number of SIP TCP calls processed by SIP ALG. |
| SIP Request | <p>Displays the following SIP Requests.</p> <ul style="list-style-type: none"> • Register: Total REGISTER requests. • Invite: Total INVITE requests. • Ack: Total ACK requests. • Bye: Total BYE requests. • Info: Total INFO requests. • Prack: Total PRACK requests. • Refer: Total REFER requests. • Cancel: Total CANCEL requests. • Update: Total UPDATE requests. • Message: Total MESSAGE requests. • Options: Total OPTIONS requests. • Publish: Total PUBLISH requests. • Subscribe: Total SUBSCRIBE requests. • Notify: Total NOTIFY requests. |
| Total Received | Total number of SIP requests received by SIP ALG. |
| Total Transmitted | Total number of SIP requests transmitted by SIP ALG. |
| Retransmitted | Total number of SIP requests retransmitted by SIP ALG. |

| Field | Description |
|-------------------|--|
| SIP Response | Displays the following SIP Responses. <ul style="list-style-type: none"> • 1XX: Total 1xx responses. • 2XX: Total 2xx responses. • 3XX: Total 3xx responses. • 4XX: Total 4xx responses. • 5XX: Total 5xx responses. • 6XX: Total 6xx responses. |
| Total Received | Total number of SIP responses received by SIP ALG. |
| Total Transmitted | Total number of SIP responses transmitted by SIP ALG. |
| Retransmitted | Total number of SIP responses retransmitted by SIP ALG. |

show active-charging analyzer statistics name tcp verbose

Table 23: show active-charging analyzer statistics name tcp verbose Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| ACS TCP Session Stats: | |
| Total Uplink Bytes | The total number of bytes uplinked. |
| Total Downlink Bytes | The total number of bytes downlinked. |
| Total Uplink Pkts | The total number of packets uplinked. |
| Total Downlink Pkts | The total number of packets downlinked. |
| Uplink Bytes Retrans | The number of uplink bytes that were retransmitted. |
| Downlink Bytes Retrans | The number of downlink bytes that were retransmitted. |
| Uplink Pkts Retrans | The number of uplink packets that were retransmitted. |
| Downlink Pkts Retrans | The number of downlink packets that were retransmitted. |
| Uplink Zero len ACKs | The number of TCP zero length ACK packets uplinked. |
| Downlink Zero len ACKs | The number of TCP zero length ACK packets downlinked. |
| Total Non-Syn Flows | The number of total TCP flows without SYN. |
| Current Non-Syn Flows | The number of current TCP flows without SYN. |

| Field | Description |
|--|--|
| Uplink Out of Order Pkts Successfully Analyzed | The number of uplink out of order packets that were successfully analyzed. |
| Downlink Out of Order Pkts Successfully Analyzed | The number of downlink out of order packets that were successfully analyzed. |
| Uplink Out of Order Pkts Failure | The number of uplink out of order packets that failed. |
| Downlink Out of Order Pkts Failure | The number of downlink out of order packets that failed. |
| Uplink Out of Order Pkts Retransmitted | The number of uplink out of order packets that retransmitted. |
| Downlink Out of Order Pkts Retransmitted | The number of downlink out of order packets that retransmitted. |
| Downlink Window Size updated Pkts | The number of downlink packets whose packet window size was updated. |
| Uplink Out of Order Pkts Buffered | The number of uplink out of order packets buffered to validate the override of transmit-immediately configuration until x-header insertion is performed. |
| Downlink Out of Order Pkts Buffered | The number of downlink out of order packets buffered to validate the override of transmit-immediately configuration until x-header insertion is performed. |
| Uplink Bytes Invalid Length | The number of uplink bytes of invalid length. |
| Downlink Bytes Invalid Length | The number of downlink bytes of invalid length. |
| Uplink Pkts Invalid Length | The number of uplink packets of invalid length. |
| Downlink Pkts Invalid Length | The number of downlink packets of invalid length. |
| Uplink Bytes Out of Sequence | The number of uplink bytes out of sequence. |
| Downlink Bytes Out of Sequence | The number of downlink bytes out of sequence. |
| Uplink Pkts Out of Sequence | The number of uplink packets that were out of sequence. |
| Downlink Pkts Out of Sequence | The number of downlink packets that were out of sequence. |
| Uplink Bytes Invalid Close Wait | The total number of bytes received in uplink direction while system is in invalid wait state to close connection. |
| Downlink Bytes Invalid Close Wait | The total number of bytes received in downlink direction while system is in invalid wait state to close connection. |
| Uplink Pkts Invalid Close Wait | The total number of packets received in uplink direction while system is in invalid wait state to close connection. |
| Downlink Pkts Invalid Close Wait | The total number of bytes received in downlink direction while system is in invalid wait state to close connection. |

| Field | Description |
|---|--|
| Uplink Bytes Invalid Close State | The total number of bytes received in uplink direction while connection is in invalid closed state. |
| Downlink Bytes Invalid Close State | The total number of bytes received in downlink direction while connection is in invalid closed state. |
| Uplink Pkts Invalid Close State | The total number of packets received in uplink direction while connection is in invalid closed state. |
| Downlink Pkts Invalid Close State | Total number of packets received in downlink direction while connection is in invalid closed state. |
| Uplink Bytes Out of Order Timeout Failure | The total number of bytes received in uplink direction while timeout duration to wait for out of order packets is exhausted. |
| Downlink Bytes Out of Order Timeout Failure | The total number of bytes received in downlink direction while timeout duration to wait for out of order packets is exhausted. |
| Uplink Pkts Out of Order Timeout Failure | The total number of packets received in uplink direction while timeout duration to wait for out of order packets is exhausted. |
| Downlink Pkts Out of Order Timeout Failure | The total number of bytes received in downlink direction while timeout duration to wait for out of order packets is exhausted. |
| Uplink Bytes Out of Order Failure in Allocation | The total number of bytes received in uplink direction while allocation of out of order packet is failed. |
| Downlink Bytes Out of Order Failure in Allocation | The total number of bytes received in downlink direction while allocation of out of order packet is failed. |
| Uplink Pkts Out of Order Failure in Allocation | The total number of packets received in uplink direction while allocation of out of order packet is failed. |
| Downlink Pkts Out of Order Failure in Allocation | The total number of packets received in downlink direction while allocation of out of order packet is failed. |
| Uplink Pkts Invalid Window Size | The total number of packets received in uplink direction with invalid window size for buffer. |
| Uplink Bytes Invalid Window Size | The total number of bytes received in uplink direction with invalid window size for buffer. |
| Downlink Pkts Invalid Window Size | The total number of packets received in downlink direction with invalid window size for buffer. |
| Downlink Bytes Invalid Window Size | Total number of bytes received in downlink direction with invalid window size for buffer. |
| Uplink Pkts Invalid Checksum | The total number of packets received in uplink direction with invalid checksum errors. |
| Uplink Bytes Invalid Checksum | The total number of bytes received in uplink direction with invalid checksum errors. |

| Field | Description |
|---------------------------------|--|
| Downlink Pkts Invalid Checksum | The total number of packets received in downlink direction with invalid checksum errors. |
| Downlink Bytes Invalid Checksum | The total number of bytes received in downlink direction with invalid checksum errors. |

show active-charging analyzer statistics name tftp

Table 24: show active-charging analyzer statistics name tftp Command Output Descriptions

| Field | Description |
|---|--|
| ACS TFTP Session Stats: | |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total Uplink Packets | Total number of packets uplinked. |
| Total Downlink Packets | Total number of packets downlinked. |
| Total Read Sessions | Total number of read sessions. |
| Total Write Sessions | Total number of write sessions. |
| Total Invalid Control Packets | Total number of invalid control packets. |
| Total Invalid Data Packets | Total number of invalid data packets. |
| Total Packets with Unknown Request Type | Total number of packets with unknown request type. |

show active-charging bandwidth-policy name

Table 25: show active-charging bandwidth-policy name Command Output Descriptions

| Field | Description |
|---|--------------------------------------|
| Service Name | Name of the Active Charging Service. |
| Bandwidth Policy Name | Name of the bandwidth policy. |
| Flow Limit-for-Bandwidth ID and Group-ID Associations: | |
| Flow Limit-for-Bandwidth ID | The ACS flow limit-for-bandwidth ID. |
| Group-ID | The ACS Bandwidth Policy Group ID. |

| Field | Description |
|--|--|
| Total number of bw-ids configured in Bandwidth-Policy <policy> | The total number of bandwidth IDs configured in the specified bandwidth policy. |
| Group-Limits for Group-ID | The group limits set for the group ID. |
| Rates & Actions | Lists the following rates and actions: <ul style="list-style-type: none"> • Peak Data Rate • Peak Burst Size • Violate Action • Committed Data Rate • Committed Burst Size • Exceed Action |
| Uplink | For bandwidth control in uplink direction indicates: <ul style="list-style-type: none"> • Peak data rate in bits per second • Peak burst size in bytes • Violate action configured: discard/lower-ip-precedence • Committed data rate in bits per second • Committed burst size in bytes • Exceed action configured: discard/lower-ip-precedence |
| Downlink | For bandwidth control in downlink direction indicates: <ul style="list-style-type: none"> • Peak data rate in bits per second • Peak burst size in bytes • Violate action configured: discard/lower-ip-precedence • Committed data rate in bits per second • Committed burst size in bytes • Exceed action configured: discard/lower-ip-precedence |
| Total number of group-limits configured in Bandwidth-Policy <policy> | The total number of group limits configured in the specified bandwidth policy. |
| Total bandwidth-policies found | The total number of bandwidth policies matching the specified criteria. |

show active-charging charging-action all

Table 26: show active-charging charging-action all Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Service Name | Name of the Active Charging Service. |
| Charging Action Name | Name of the charging action. There may be several charging actions configured per charging service. |
| Content ID | The content ID to use in the generated billing records as the Rating-Group Attribute Value Pair (AVP) for this charging action. |
| Service ID | Service identifier value configured in the Charging Action mode. |
| PCO | Specifies the PCO value. |
| EDRs | Indicates whether Event Detail Record (EDR) billing action for packets matching this charging action is enabled, and the EDR format. Important This field is available only in 12.1 and earlier releases. |
| Charging EDRs | Indicates whether EDR billing action for packets matching this charging action is enabled, and the charging EDR format name. Important This field is available only in 12.2 and later releases. |
| Reporting EDRs | Indicates whether EDR billing action for packets matching this charging action is enabled, and the reporting EDR format name. Important This field is available only in 12.2 and later releases. |
| EGCDRs | Indicates whether eG-CDRs for billing of the packets matching with this charging action is enabled. |
| UDRs | Indicates whether UDR generation is enabled. |
| Flow Idle Timeout | Displays the idle-timeout for flows inspected by ECS. |
| Limit For Flow Type | Indicates whether Limit For Flow Type is enabled/disabled. |
| Limit For Uplink Bandwidth | Indicates whether Limit For Uplink Bandwidth is enabled/disabled. |
| Limit For Downlink Bandwidth | Indicates whether Limit For Downlink Bandwidth is enabled/disabled. |
| Throttle-Suppress Timeout | Displays the configured timeout value in seconds or displays "n/a" if not configured. |

| Field | Description |
|-------------------------------|--|
| QoS Renegotiate Traffic-Class | Indicates whether QoS Renegotiate Traffic-Class is enabled/disabled. |
| QoS Class Identifier | Indicates whether QoS Class Identifier is configured. |
| IP Type of Service | Indicates whether IP Type of Service is configured. |
| Flow-Mapping Idle Timeout | Indicates the flow-mapping timeout value, in seconds. |
| DNS Proxy Bypass | Indicates whether DNS Proxy Bypass is enabled/disabled. If enabled, the DNS packets bypass interception at the session manager when readdressing for flow occurs, and go through ECS-based DNS redirection. |
| Count Retransmissions | Indicates whether Count Retransmissions is enabled. |
| Content Filtering | Indicates whether Content Filtering is enabled. |
| Type of Service | Displays the service type (PDSN, GGSN, etc.) |
| Count Retries | Indicates if the ECS service is counting retransmitted packets per subscriber. |
| GCDRs | Indicates if G-CDRs are enabled or disabled. |
| Discard | Specifies if the packets that match the flow should be discarded. |
| Credit Control | Specifies if credit control is being used in this charging action |
| Xheader-Insert | Indicates the x-header format name. |
| Message Type | Indicates the message type - Request or Response. |
| DNS Tethering Hostnames Cache | Indicates whether caching from DNS flows for DNS-based tethering detection is enabled or disabled. |
| Flow Action | |
| Redirect URL | Indicates whether the redirection of URL for packets that matches a ruledef is enabled/disabled. If enabled, redirects the HTTP packets matched to this Ruledef to the specified URL. |
| Clear Quota Retry Timer | Indicates whether Clear Quota Retry Timer is enabled/disabled. If enabled, resets the Credit Control Application quota retry timer for specific subscriber upon redirection. |
| Conditional Redirect | Indicates whether Conditional Redirect end token action is enabled/disabled. If enabled, conditionally redirects the HTTP packets matched to a configured user-agent to a specified URL. |

| Field | Description |
|--------------------------------|---|
| Discard | Indicates whether discard action is enabled/disabled. If enabled, discards the packet associated with the charging action. |
| Terminate-Flow | Indicates whether terminate flow action is enabled/disabled. If enabled, terminates the TCP connection gracefully between the subscriber and external server and sends a TCP FIN to the subscriber and a TCP RST to the server. If the flow does not use TCP, this option simply discard the packets. This option is used for flows that use TCP only. |
| PCO-Custom1 Value | Indicates the configured PCO value. Displays n/a if this value is not configured. |
| Rulebase Change | Indicates whether the rulebase change action is enabled/disabled. If enabled, displays the name of the rulebase the call should be changed to when the charging action is applied. |
| Billing Action | |
| Event Data Record | Indicates whether EDRs are enabled/disabled. |
| GGSN charging Data Record | Indicates whether GGSN CDRs are enabled/disabled. |
| User Data Record | Indicates whether UDRs are enabled/disabled. |
| Radius Accounting Record | Indicates whether RADIUS accounting records is enabled/disabled. |
| Charge Volume | Indicates the charge volume for packet-length (payload). |
| Predefined Rule Deactivation | Indicates whether the predefined rule/Group of ruledefs deactivation is enabled/disabled. |
| Total charging action(s) found | The number of charging actions that matched the criteria. |
| Readdressing | Indicates whether CAE re-addressing on the Mobile Video Gateway is enabled or disabled. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| Percentage Rate Reduction | If enabled, indicates the configured bit rate reduction for mobile video as a percentage of the input bit rate. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| TFT updates to UE | Indicates if the selective TFT suppression feature is enabled or disabled for all bearers including default and dedicated bearers. |

show active-charging charging-action name

Table 27: show active-charging charging-action name Command Output Description

| Field | Description |
|-----------------|---|
| Encryption Type | Indicates the encryption algorithm used, which is either rc4md5 or aes-256-gcm-sha384. |
| Salt | Indicates if the salt flag is turned on or off. |
| Key | Indicates the key that is used for encryption of xheader fields. Note The supported length for rc4md5 is 8 to 15 string size and for aes256gcm, the supported length is 32 string size, which is equal to 256 bits. |

show active-charging charging-action statistics name

Table 28: show active-charging charging-action statistics name Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Service Name | Name of the Active Charging Service. |
| Charging Action Name | Name of the charging action. There are be several charging actions per charging service. |
| Uplink Pkts Retrans | Total number of uplink packets that were retransmitted. |
| Downlink Pkts Retrans | Total number of downlink packets that were retransmitted. |
| Uplink Bytes Retrans | Total number of uplink bytes that were retransmitted. |
| Downlink Bytes Retrans | Total number of downlink bytes that were retransmitted. |
| Upl Pkts Readdressed | Total number of readdressed uplink packets. |
| Dnl Pkts Readdressed | Total number of readdressed downlink packets. |
| Upl Bytes Readdressed | Total number of readdressed uplink bytes. |
| Dnl Bytes Readdressed | Total number of readdressed downlink bytes. |
| PP Upl Pkts Readdressed | Total number of post-processed uplink packets readdressed. |
| PP Dnl Pkts Readdressed | Total number of post-processed downlink packets readdressed. |
| PP Upl Bytes Readdressed | Total number of post-processed uplink bytes readdressed. |

| Field | Description |
|--|---|
| PP Dnl Bytes Readdressed | Total number of post-processed downlink bytes readdressed. |
| Bytes Charged Yet Packet Dropped | Total number of bytes charged although packet is dropped. For example, a concatenated HTTP GET packet contains one complete GET request and part of another GET request (partial). The partial packet gets completed in the next HTTP packet but is eventually dropped for some reason. In this case, the partial bytes of the GET request are charged in the earlier packet, however, the packet as a whole is dropped. |
| Predef-Rules Deactivated | Total number of times predefined rules/Group of ruledefs is deactivated via charging action. |
| Throttle-Suppress Stats: | |
| Uplink Bytes | Total number of uplink bytes for which bandwidth limiting is suppressed. |
| Downlink Bytes | Total number of downlink bytes for which bandwidth limiting is suppressed. |
| Readdressing Failures Statistics (Packets): | |
| Non SYN Flow | Total number of readdressing packets with a non SYN flow failure. |
| Duplicate Key | Total number of readdressing packets with a duplicate key failure. |
| Dropped Pkts | Total number of packets discarded on readdressing failure. If the discard-on-failure option is not enabled using the flow action readdress command, this value will be zero. |
| XHeader Information: | |
| For Request | |
| XHeader Bytes Injected | Total number of x-header bytes injected for Request messages. |
| XHeader Pkts Injected | Total number of x-header packets injected for Request messages. |
| XHeader Bytes Removed | Total number of x-header bytes removed for Request messages as a result of the anti-spoofing feature configuration. |
| XHeader Pkts Removed | Total number of x-header packets removed for Request messages as a result of the anti spoofing feature configuration. |
| IP Frags consumed by XHeader | Total number of IP fragments consumed by x-header enrichment for Request messages. |
| For Response | |
| XHeader Bytes Injected | Total number of x-header bytes injected for Response messages. |

| Field | Description |
|--|--|
| XHeader Pkts Injected | Total number of x-header packets injected for Response messages. |
| XHeader Bytes Removed | Total number of x-header bytes removed for Response messages as a result of the anti-spoofing feature configuration. |
| XHeader Pkts Removed | Total number of x-header packets removed for Response messages as a result of the anti-spoofing feature configuration. |
| IP Frags consumed by XHeader | Total number of IP fragments consumed by x-header enrichment for Response messages. |
| For Local Response | |
| XHeader Bytes Injected | Total number of x-header bytes injected for local Response messages. |
| XHeader Pkts Injected | Total number of x-header packets injected for local Response messages. |
| NCQoS Discarded Packets: | |
| Rule Bound elsewhere | Total number of rules bound elsewhere. |
| Rule Binding pending | Total number of rule binding pending. |
| Unbound Rule hit | Total number of unbound rule hits. |
| Statistic | Statistic type. |
| flow-action | Total number of matching flows/sessions/packets for the statistic. |
| pp-flow-action | Total number of matching flows/sessions/packets for the statistic. |
| flow-limit | Total number of matching flows/sessions/packets for the statistic. |
| bandwidth-limit | Total number of matching flows/sessions/packets for the statistic. |
| Total Charging Action(s) matched | Total number of charging actions matching the criteria. |
| CAE-Readdressing: | |
| Requests CAE-Readdressed | Total number of request readdressing done. |
| Responses CAE-Readdressed | Total number of response readdressing done. |
| Requests having xheader inserted | Total number of HTTP requests with x-headers inserted. |
| Total CAE-Readdressed Uplink Bytes | Total number of uplink bytes readdressed. |
| Total CAE-Readdressed Uplink Packets | Total number of uplink packets readdressed. |
| Total CAE-Readdressed Downlink Bytes | Total number of downlink bytes readdressed. |
| Total CAE-Readdressed Downlink Packets | Total number of downlink packets readdressed. |

| Field | Description |
|--|--|
| Total Charging action hit - Req. Readdr. | Total number of charging action hits based on HTTP request. |
| Total Charging action hit - Resp. Readdr | Total number of charging action hits based on HTTP response. |
| Proxy Disable Success | Total number of flows with proxy disabled. |
| Flows connected to CAE | Total number of flows connected to the CAE. |
| CAE Readdressing Error Conditions | |
| Total connect failed to CAE | Total number of connections failed to the CAE. |
| Req. Readdr. - pipelined case | Total number of pipelined requests skipped from doing readdressing. |
| Resp. Readdr. - pipelined case | Total number of pipelined response skipped from doing readdressing. |
| Req. Readdr. - Socket Mig. failed | Total number of TCP socket migration failure during request readdressing. |
| Skipped Resp. Readdr. - partial resp hdr | Total number of response readdressing skipped due to partial response. |
| Resp. Readdr. - Socket Mig. failed | Total number of TCP socket migration failure during response readdressing. |
| Total CAE load balancer failed | Total number of load balancer failures to find the video server (CAE) for readdressing. |
| Total MVG xheader insertion failed | Total number of MVG x-header insertion failures. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| Proxy Disable Failed | Total number of times the proxy disable function failed. |
| Strip URL: | |
| Successful Token stripped | Total number of tokens stripped successfully. |
| Total strip URL failure | Total number of URL token stripping failures. |
| Failure - Missing config | Total number of failures due to missing configuration. |
| Failure - Existing flow bid | Total number of failures due to existing flow action bid. |
| Failure - Token matching failed | Total number of failures due to token match fail. |
| Failure - Empty packet | Total number of failures due to empty packet. |
| Failure - Req end not found | Total number of failures due to request end not found. |
| Failure - Subset of big token | Total number of failures due to subset of big token. |

| Field | Description |
|--|--|
| URL-Readdressing: | |
| Requests URL-Readdressed | Total number of URL re-addressed requests. |
| Total Charging action hit - Req. Readdr. | Total number of charging action hits based on request re-addressing. |
| Proxy Disable Success | Total number of flows the proxy disabled successfully. |
| Flows connected to URL Server | Total number of flows connected to URL server. |
| URL Readdressing Error Conditions: | |
| Total connect failed to URL Server | Total number of failed connections to the URL server. |
| URL Readdress - pipelined case | Total number of pipelined requests skipped during URL re-addressing. |
| URL Readdress - Socket Mig. failed | Total number of TCP socket migration failure during URL re-addressing. |
| Proxy Disable Failed | Total number of times the proxy disabled function failed. |

show active-charging content-filtering category policy-id all

Table 29: show active-charging content-filtering category policy-id all Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Service Name | Name of the Active Charging Service. |
| Content Filtering Policy | The Content Filtering Policy ID. |
| Content Filtering Categories | |
| Category | Category of the content rated. |
| Priority | Priority of the CF category in the CF Policy. |
| Action | Action taken for the indicated result of CF analysis. |
| Content Insert | The content string inserted in place of message returned from prohibited or restricted site or content server. |
| Redirect | The URL to redirect subscribers. |
| Reply Code | The reply code specified for www-reply-code-and-terminate-flow action. |
| EDR | The EDR file format name to generate separate CF EDRs based on action and content category. |

| Field | Description |
|---------------------------|--|
| Failure Action | The failure end condition if rating cannot be performed. |
| Discarded-Flow-Content-ID | The content ID for the discarded flows. If not configured, this field is not displayed. |

show active-charging content-filtering category statistics rulebase name

Table 30: show active-charging content-filtering category statistics rulebase name Command Output Descriptions

| Field | Description |
|--|--|
| Service Name | Name of the Active Charging Service in which category-based content filtering application is configured. |
| Rulebase Name | Name of rulebase for category-based content filtering application. |
| Content Filtering Statistics | |
| Flows discarded | Total number of flows discarded in content filtering application. |
| Flows redirected | Total number of flows redirected in content filtering application. |
| Flows allowed | Total number of flows allowed in content filtering application. |
| Flows terminated | Total number of flows terminated in content filtering application. |
| Flows discarded with content insertion | Total number of flows discarded and information content inserted in header of flow in content filtering application. |
| Total Flows blocked | Total number of flows blocked in content filtering application. |
| Total Number of dynamic DB lookups | Total number of lookups in dynamic database for Category-based Content Filtering application. This counter is not available in 9.0 and later releases. |
| Total number of static DB lookups | Total number of lookups in static URL database for category based content filtering application. |
| Total number of successful Cache lookups | The total number of successful lookups in cache memory for URLs. Note From Release 21.4, this field is excluded from the output in support of the Talos Security Intelligence Database Support for URL Classification feature. |
| Total number of unknown URLs | Total number of flows/requests with unknown URL. |

| Field | Description |
|--|---|
| Actions For Rating Attempts Not Completed | |
| Flows discarded | Total number of flows discarded in content filtering application. |
| Flows redirected | Total number of flows redirected in content filtering application. |
| Flows allowed | Total number of flows allowed in content filtering application. |
| Flows terminated | Total number of flows terminated in content filtering application. |
| Flows discarded with content insertion | Total number of flows discarded and information content inserted in header of flow in content filtering application. |
| Total Flows blocked | Total number of flows blocked in content filtering application. |
| Time taken for rating | <p>A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms.</p> <p>Note From Release 21.4, the following changes are made to the statistics of this field in support of the Talos Security Intelligence Database Support for URL Classification feature:</p> <ul style="list-style-type: none"> • The > 50ms value is excluded from the output. • The following sub-fields are added to the “Time taken for rating” field: <ul style="list-style-type: none"> • 50-100ms • 100-200ms • 200-300ms • 300ms |
| Number of URLs | Indicates the number of URLs rated in each time slot. |
| Number of URLs (SRDB) | Indicates the number of URLs rated in a specific time slot from static rating database (SRDB). |
| Number of URLs (Cache) | Indicates the number of URLs rated in a specific time slot from the cached list of URLs in memory. |
| Attempts not completed | Indicates the number of URL rating attempts not completed. |
| Total rulebases matched | Total number of rulebases that matched the criteria. |

show active-charging content-filtering category statistics

Table 31: show active-charging content-filtering category statistics Command Output Descriptions

| Field | Description |
|--|---|
| Service Name | Name of the Active Charging Service in which category-based content filtering application is configured. |
| Cumulative Content Filtering Statistics: | |
| Flows discarded | Total number of flows discarded. |
| Flows redirected | Total number of flows redirected. |
| Flows allowed | Total number of flows allowed. |
| Flows terminated | Total number of flows terminated. |
| Flows discarded with content insertion | Total number of flows discarded and content inserted in header of flow. |
| Total Flows blocked | Total number of flows blocked. |
| Total Number of dynamic DB lookups | Total number of lookups in dynamic database. This counter is not available in 9.0 and later releases. |
| Total number of static DB lookups | Total number of lookups in static URL database. |
| Total number of successful Cache lookups | Total number of successful URL lookups in cache memory. Note From Release 21.4, this field is excluded from the output in support of the Talos Security Intelligence Database Support for URL Classification feature. |
| Total number of unknown URLs | Total number of flows/requests with unknown URL. |
| Failure Action (Rating Attempts Not Completed): | |
| Flows discarded | Total number of flows discarded due to failure action. |
| Flows redirected | Total number of flows redirected due to failure action. |
| Flows allowed | Total number of flows allowed due to failure action. |
| Flows terminated | Total number of flows terminated due to failure action. |
| Flows discarded with content insertion | Total number of flows discarded and information content inserted in header of flow due to failure action. |
| Total Flows blocked | Total number of flows blocked due to failure action. |

| Field | Description |
|--|---|
| Time taken for rating | <p>A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms.</p> <p>Note From Release 21.4, the following changes are made to the statistics of this field in support of the Talos Security Intelligence Database Support for URL Classification feature:</p> <ul style="list-style-type: none"> • The > 50ms value is excluded from the output. • The following sub-fields are added to the “Time taken for rating” field: <ul style="list-style-type: none"> • 50-100ms • 100-200ms • 200-300ms • 300ms |
| Number of URLs | Total number of URLs rated in each time slot. |
| Attempts not completed | Total number of URL rating attempts not completed. |
| Cumulative Dynamic Content Filtering Statistics | |
| Dynamic Flows discarded | Total number of dynamic flows discarded. |
| Dynamic Flows redirected | Total number of dynamic flows redirected. |
| Dynamic Flows allowed | Total number of dynamic flows allowed. |
| Dynamic Flows terminated | Total number of dynamic flows terminated. |
| Dynamic Flows discarded with content insertion | Total number of dynamic flows discarded and content inserted in header of flow. |
| Total Dynamic Flows blocked | Total number of dynamic flows blocked. |
| Total Number of dynamic lookups | Total number of dynamic lookups. |
| Total number of unknown URLs | Total number of flows/requests with unknown URLs. |
| Response codes not in range 2xx | Number of responses that were not sent for dynamic rating as the response was not in the 2xx range. |
| Dynamic Failure Action (Rating Attempts Not Completed): | |
| Flows discarded | Total number of flows discarded due to failure action. |
| Flows redirected | Total number of flows redirected due to failure action. |

| Field | Description |
|--|---|
| Flows allowed | Total number of flows allowed due to failure action. |
| Flows terminated | Total number of flows terminated due to failure action. |
| Flows discarded with content insertion | Total number of flows discarded and information content inserted in header of flow due to failure action. |
| Total Flows blocked | Total number of flows blocked due to failure action. |
| Time taken for Dynamic rating | A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms. |
| Number of URLs | Total number of URLs rated in each time slot. |
| Attempts not completed | Total number of URL rating attempts not completed. |
| Number of Packets Hit per Category | Indicates the specific category and the number of packets hit per category. If during runtime, an x-category was added, the x-category is also displayed. |
| Number of Packets Blocked per Category | Indicates the specific category and the number of packets blocked per category. If during runtime, an x-category was added, the x-category is also displayed. |
| Total Responses Inspected | Indicates the number of responses eligible for dynamic rating (i.e. rated as UNKNOW / DYNAM by static rating when dynamic rating is enabled) |
| Responses Buffered | Indicates the number of responses actually buffered. |
| Total Dynamic Lookups | Indicates the total number of dynamic lookups of URLs. |
| Lookups Completed | Indicates the total number of lookups completed. |
| Responses Too Big | Indicates the size of response more than the maximum value allowed (256KB). |
| Out of Rating Buffer | Indicates the out of rating buffer limit. |
| Min Response Size | Indicates the size of the smallest response inspected. |
| Max Response Size | Indicates the size of the largest response inspected. |
| Session QLimit Exceeded | Indicates the number of times we exceeded queue limit for a session (i.e. limit on number of packets that can be queued). |
| Max Pkt per Session | Indicates the maximum number of packets buffered for a single session. |

| Field | Description |
|-------------------------|---|
| Current Active Sessions | Indicates the current number of responses subjected to dynamic CF. |
| Max Active Sessions | Indicates the maximum number of responses subjected to dynamic CF simultaneously. |

show active-charging content-filtering server-group name

Table 32: show active-charging content-filtering server-group name Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Content Filtering Group | Name of the Content Filtering Server Group (CFSG). |
| Context | The context in which the CFSG is configured. |
| Origin Address | IP address of the origin endpoint or ICAP client. |
| Response Timeout | The response-timeout duration configured to wait for response. |
| Connection Retry Timeout | The connection retry timeout duration configured to check the TCP connection status between ICAP sever and client. |
| Dictionary | The dictionary used for encoding requests to the server(s). |
| Timeout Action | The action configured for connection timeout. |
| Deny Message | The text string message that is returned to the subscriber in a deny response. |
| URI-extraction | The ICAP URL extraction mode: <ul style="list-style-type: none"> • after-parsing: Percent-encoded hex characters in URLs sent from the ACF client to the ICAP server are converted to corresponding ASCII characters and sent. • raw: The URLs contain percent-encoded hex characters as is. |
| Content Filtering Group Connections | The total number of CF server group connections open. |
| Priority | Displays the priority of the CF server for which statistics has to be displayed. |
| ICAP Address (Port) | Displays the IP address and port number of ICAP server within CF Server Group. |
| Max Outstanding | The total number of unanswered outstanding messages to this ICAP server. |

| Field | Description |
|--|--|
| ACSMgr Instance | Number of ACS Manager instance. |
| Connection State | Status of ACS Manager instance for CF server group connection. |
| Total content filtering groups matching specified criteria | The total number of CFSG matching the criteria. |

show active-charging content-filtering server-group statistics verbose

Table 33: show active-charging content-filtering server-group statistics verbose Command Output Descriptions

| Field | Description |
|--------------------------------------|--|
| Content Filtering Group | Name of the Content Filtering Server Group (CFSG). |
| Connection Statistics | |
| Current Open Connections | Total number of open connections. |
| Connection DHOST requests | Total number of DHOST requests. |
| Successful Connections | Total number of successful connections. |
| Connections DHOST remove | Total number of connections removed from DHOST. |
| Connection SHUTDOWN req | Total number of requests for SHUTDOWN. |
| ACF Unreachable(read) | Total number of attempts for Active Content Filter server (ICAP server) to read. |
| ACF Unreachable(write) | Total number of attempts for Active Content Filter server (ICAP server) to write. |
| Reconnect attempts | Total number of reconnect attempts for ACF server (ICAP server). |
| Connection Timeout | Total number of connections timeout after reconnect attempts for ACF server (ICAP server). |
| Connection Failure Statistics | |
| Connection DHOST errors | Total number of DHOST errors in connection. |
| Connection CONNECT error | Total number of CONNECT errors in connection. |
| Socket open errors | Total number of errors due to SOCKET open in connection. |
| Connection bind errors | Total number of BIND errors in connection. |
| Connection setvr errors | Total number of SETVER errors in connection. |

| Field | Description |
|--|---|
| Connection NONBLOCK errors | Total number of NONBLOCK errors in connection. |
| Connection SHUTDOWN errors | Total number of SHUTDOWN errors in connection. |
| Incomplete 3-way handshaking | Total number of errors due to incomplete 3-way handshaking in TCP connection. |
| ACF Statistics | |
| ACF Requests Created | Total number of requests created for ACF. |
| Response Timeout | Total number of response timeout for requests to ACF. |
| Write request success | Total number of successful WRITE requests. |
| Write request failed | Total number of failed WRITE requests. |
| Read response success | Total number of successful READ response. |
| Read response failed | Total number of failed READ response. |
| HTTP Permit | Total number of HTTP URLs permitted from ACF. |
| WAP Permit | Total number of WAP URLs permitted from ACF. |
| HTTP Deny | Total number of HTTP URLs denied from ACF. |
| WAP Deny | Total number of WAP URLs denied from ACF. |
| HTTP Redirect | Total number of HTTP URLs redirected from ACF. |
| WAP Redirect | Total number of WAP URLs redirected from ACF. |
| RTSP Permit | Total number of RTSP URLs permitted from ACF. |
| RTSP Deny | Total number of RTSP URLs denied from ACF. |
| RTSP Redirect | Total number of RTSP URLs redirected from ACF. |
| Client Errors(4xx) | Total number of client ICAP response errors. |
| Server Errors(5xx) | Total number of server ICAP response errors. |
| Invalid ACTION | Total number of invalid ACTION message from ACF. |
| Redirect URL not defined | Total number of errors due to undefined redirect URL. |
| Buffer List Empty | Total number of errors due to empty buffer list. |
| Failure Action (communication failure with server-group): | |
| Permit | Total number of connections permitted after connection failure. |
| Content Insertion | Total number of connections with content inserted after connection failure. |

| Field | Description |
|--|---|
| Discard | Total number of connections discarded after connection failure. |
| Terminate Flow | Total number of connections terminated after connection failure. |
| Redirect URL | Total number of connections redirected after connection failure. |
| Total action taken | Total number of actions taken after connection failure. |
| Num pkts dropped for DENY | Total number of packets dropped after denying the connection due to failure in connection. |
| Num pkts dropped for REDIRECT | Total number of packets dropped after redirecting the connection due to failure in connection. |
| Num pkts dropped for DENY Timeout action | Total number of packets dropped after denying the connection due to timeout action. |
| Num pkts dropped for REDIRECT Timeout action | Total number of packets dropped after redirecting the connection due to timeout action. |
| Failure Action (communication with server-group not attempted): | ICAP stats indicating failure (like memory allocation failure, server connection error, etc) on ICAP before a request is sent to the ICAP server. |
| Permit | Total number of connections permitted after connection failure. |
| Content Insertion | Total number of connections with content inserted after connection failure. |
| Discard | Total number of connections discarded after connection failure. |
| Terminate Flow | Total number of connections terminated after connection failure. |
| Redirect URL | Total number of connections redirected after connection failure. |
| ACF Req Error Statistics | Statistics related to ACF request errors. |
| Host field Null | Total number of HTTP GET requests which has the host field NULL. |
| URL Invalid | Total number of nonblank URLs with strlen != 0 but URL having " ", \t, \n characters only. |
| Host same as ICAP server:port | Total number of HTTP GET requests with host same as the configured ICAP server port. |
| ACF Resp Parse Statistics | Statistics related to ACF response parsing. |
| Parse ACF resp success | Total number of successful ACF parse response. |
| Parse ACF resp ver err | Total number of successful ACF parse response version error. |
| Misc Statistics | Miscellaneous statistics. |

| Field | Description |
|---|--|
| Total pkts sent | Total number of packets sent through ICAP connection. |
| Invalid ACF group config | Total number of errors due to invalid CF Server Group (Active Content Filter server groups) configuration. |
| Invalid bind address | Total number of errors due to invalid binding address configuration. |
| Invalid ICAP address | Total number of errors due to invalid ICAP server addresses. |
| ICAP queue length statistics | |
| SessionMgr ID | Session Manager ID. |
| ICAP queue length | Queue size of outstanding ICAP requests per Session Manager. |
| Histogram of ICAP Server's Response time | |
| Response Time(ms) | Response time slots, in milliseconds. |
| No Of Responses | Number of responses per time slot. |

show active-charging credit-control misc-info max-backpressure

Table 34: show active-charging credit-control misc-info max-backpressure Command Output Descriptions

| Field | Description |
|-----------------------|---|
| Instance | The session manager instance number. |
| Max-backpressure | The maximum number of sessions that are in backpressured (unable to send message due to message queue being full) state for all active or specific session manager instance(s). |
| Time | The timestamp at which the maximum backpressure happened. |
| Current-Backpressured | Number of sessions that are currently in backpressured state. |
| Monitoring-time | The timestamp from when the backpressure monitoring is happening. This field helps to know when the last time reset is applied. |

show active-charging credit-control session-states

Table 35: show active-charging credit-control session-states Command Output Descriptions

| Field | Description |
|---------------------------|---|
| Charging | Number of sessions/categories in charging state. |
| NoCharge | Number of sessions/categories in free-of-charge (received 4011 at MSCC level) state. |
| Blacklist Service Denied | Number of sessions/categories in Service-Denied (received 4010 at MSCC level) state. |
| Blacklist Rating Failed | Number of sessions/categories in Rating-Failed (received 5031 at MSCC level) state. |
| Blacklist Auth Rejected | Number of sessions/categories in Auth-Rejected (received 5003 or 5012 at MSCC level) state. |
| Blacklist Limit Reached | Number of sessions/categories in Limit-Reached (received 4012 at MSCC level) state. |
| Blacklist Final Unit | Number of sessions/categories in FUI-Terminated state at MSCC level. |
| Blacklist Other | Number of sessions/categories in Blacklisted state after recovery. |
| Pending Initial Request | Number of sessions pending for Initial Credit-Control Answer from the server. |
| Pending Update Request | Number of sessions pending for Update Credit-Control Answer from the server. |
| Pending Terminate Request | Number of sessions pending for Terminate Credit-Control Answer from the server. |
| Pending Event Request | Number of sessions pending for Credit-Control Answer Event message from the server. |
| Backpressured | Number of sessions/categories in backpressured (unable to send message due to message queue being full) state. |
| Assume-Positive | Number of sessions currently in Assume Positive state. Important This statistic is customer-specific. For more information, please contact your local Cisco account representative. |

show active-charging credit-control statistics

Table 36: show active-charging credit-control statistics Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Active Charging Service | Name of the Active Charging Service. |
| Credit Control Group | Name of the credit control group. This field is displayed only if there are credit control group(s) configured. |
| CC Session Stats | |
| Total Current Sessions | Total number of credit control sessions active. |
| Total ECS Adds | Total number of ECS sessions added to credit control application. |
| Total CC Starts | Total number of credit control sessions started. |
| Total Session Updates | Total number of credit control sessions updated. |
| Total Terminated | Total number of credit control sessions terminated. |
| CC Session Failovers | Total number of credit control sessions failed. |
| CC Message Stats | |
| Total Messages Received | Total number of credit control messages received. |
| Total Messages Sent | Total number of credit control messages sent. |
| Total CC Requests | Total number of Credit Control Request (CCR) messages that went out from system to the credit control server. The CCR can be Initial/Update or Terminate. |
| Total CC Answers | Total number of Credit Control Answer (CCA) messages that came into system from credit control server. |
| CCR-Initial | Total number of Initial Credit Control Request (CCR-Initial) messages that went out from system to the credit control server. |
| CCA-Initial | Total number of Initial Credit Control Answer (CCA-Initial) messages that came into system from Diameter Server. |
| CCA-Initial Accept | Total number of CCA-Initial-Accept (Initial Credit Control Answer sent and accepted) messages that came into system from Credit Control Server. |
| CCA-Initial Reject | Total number of CCA-Initial-Reject (Initial Credit Control Answer sent and rejected.) messages that came into system from credit control server. |

| Field | Description |
|----------------------|---|
| CCA-Initial Timeouts | Total number of CCA-Initial-Timeouts (Initial Credit Control Answer sent and timed out) messages that came into system from credit control server. |
| CCR-Update | Total number of CCR-Updates (Credit Control Request with Update) messages that went out from system to the credit control server. |
| CCA-Update | Total number of CCA-Update (Credit Control Answer for update) messages that came into system from credit control server. |
| CCA-Update Timeouts | Total number of CCA-Update Timeouts (Credit Control Answer for update sent and timed out) messages that came into system from credit control server. |
| CCR-Final | Total number of CCR-Final (Credit Control Request with Final) messages that went out from system to the credit control server. |
| CCA-Final | Total number of CCA-Final (Credit Control Answer for final update sent) messages that came into system from credit control server. |
| CCA-Final Timeouts | Total number of CCA-Final Timeouts (Credit Control Answer for final update sent and time-out) messages that came into system from credit control server. |
| CCR-Event | Total number of CCR-Event (Credit Control Request with Event) messages that went out from system to the credit control server. |
| CCA-Event | Total number of CCA-Event (Credit Control Answer for Event update sent) messages that came into system from credit control server. |
| CCA-Event Timeouts | Total number of times the tx-timer expired waiting for a CCA-Event message from the server. |
| ASR | Total number of Abort-Session Request messages came into system from credit control server. |
| ASA | Total number of Abort-Session Accept messages sent from system to credit control server. This message will be followed by a CCR-Terminate to terminate the session. |
| RAR | Total number of ReAuth Request messages that came into system from Diameter Server. |
| RAA | Total number of ReAuth Accept messages sent from system to Credit Control server. This message is followed by a CCR-Update to update the Credit Control server about the session. |
| CCA Dropped | Total number of Credit Control Answer (CCA) messages dropped by system. |

| Field | Description |
|---|--|
| CC Message Error Stats | |
| Diameter Protocol Errs | Total number of message errors due to Diameter protocol errors. |
| Transient Failures | Total number of errors that fall within the transient failures category are used to inform a peer that the request could not be satisfied at the time it was received, but may be able to satisfy the request in the future. The Result-Code data field contains 4xxx for Transient Failures. |
| Permanent Failures | Total number of errors that fall within the permanent failures category are used to inform the peer that the request failed, and should not be attempted again. The Result-Code data field contains 5xxx for Permanent Failures. |
| Bad Answers | Total number of message errors due to invalid responses. |
| Unknown Session Reqs | Total number of message errors due to invalid session requests. |
| Unknown Command Code | Total number of message errors due to invalid/unknown command code (ASR, RAR). |
| Request Timeouts | Total number of message errors due to request timeout. |
| Parse Errors | Total number of message errors due to parsing errors. |
| Unknown Rating Group | Total number of message errors due to invalid/unknown rating groups. Rating group is used to identify a particular type of traffic. |
| Unknown Rulebase | Total number of message errors due to invalid/unknown rulebase applied. |
| Unk Failure Handling | Total number of message errors due to invalid/unknown reasons. |
| Backpressure Stats | |
| CCR-I Messages | This counter gives the number of times backpressure got hit while creating a CCR-I message. |
| CCR-U Messages | This counter gives the number of times backpressure got hit while creating a CCR-U message. |
| CCR-T Messages | This counter gives the number of times backpressure got hit while creating a CCR-T message. |
| CCR-E Messages | This counter gives the number of times backpressure got hit while creating a CCR-E message. |
| CC Update Reporting Reason Stats | |

| Field | Description |
|-----------------------------------|--|
| Threshold | <p>For each of the rating group, the credit control server send a threshold (this is also configurable in a system) after which a update needs to be sent.</p> <p>For example, a subscriber quota of 1000 bytes with 900 as threshold is sent to credit control application. When 900 bytes have consumed by the system, an update message is sent for quota.</p> <p>This counter gives the number of updates sent because of threshold.</p> |
| QHT | Total number of credit control updates sent due to expiry of Quota Hold Timer (QHT). |
| Final | Total number of credit control updates sent due to expiry of final unit of quota. |
| Quota Exhausted | Total number of credit control updates sent due to subscriber quota getting exhausted. |
| Validity Time | Total number of credit control updates sent because of the session validity time expired. |
| Other Quota | Total number of credit control updates sent due to request for additional quota for subscriber. |
| Rating Condition Change | Total number of credit control updates sent due to change in RAT/QOS/SGSN/CELLID/LAC. |
| Forced Reauthorization | Total number of credit control updates sent due to RAR. |
| TITSU Time | This counter is incremented when the RADIUS online access-request is triggered because the Time Interval after TariffSwitchUpdate expired. |
| CC Termination Cause Stats | |
| Diameter Logout | Total number of Credit Control Application session(s) terminated due to subscriber logout. |
| Service Not Provided | Total number of Credit Control Application session(s) terminated as service was not available. |
| Bad Answer | Total number of Credit Control Application session(s) terminated due to invalid/unknown response received. |

| Field | Description |
|---------------------------|--|
| Administrative | <p>The total number of sessions disconnected due to any of the following reasons:</p> <ul style="list-style-type: none"> • Sessions disconnected when the Administrator issues the clear subscribers all CLI command. • Sessions disconnected by ECS due to any of the following reasons: <ul style="list-style-type: none"> • Bearer does not contain active rules—when the last bearer has no rules left as part of some PCRF trigger. • Charging-action has the flow action parameter configured as terminate-session. • Sessions disconnected by the Diameter Credit Control Application (DCCA) due to any of the following reasons: <ul style="list-style-type: none"> • Result code 4010 or 4012 is received at the command level, and for CCR-Initial and CCR-Update Credit Control Failure Handling (CCFH) is configured as Terminate or Retry-and-Terminate. • Result code 5003 or 5030 is received at the command level. • Abort-Session-Request message is received. |
| Link Broken | Total number of Credit Control Application session(s) terminated due to broken/down link. |
| Auth Expired | Total number of Credit Control Application session(s) terminated due to authorization of subscriber expired. |
| User Moved | Total number of Credit Control Application session(s) terminated as subscriber moved out of service area. |
| Session Timeout | Total number of Credit Control Application session(s) terminated due to timeout. |
| CCBad Answer Stats | |
| Auth-Application-Id | Indicates the absence or unexpected value in Auth-Application-Id AVP. |
| Session-Id | Indicates the absence or unexpected value in Session-Id AVP. |
| CC-Request-Number | Indicates the absence or unexpected value in CC-Request-Number AVP. |
| CC-Request-Type | Indicates the absence or unexpected value in CC-Request-Type AVP. |

| Field | Description |
|----------------------------------|--|
| Origin-Host | Indicates the absence of Origin-Host AVP. |
| Origin-Realm | Indicates the absence of Origin-Realm AVP. |
| Parse-Message-Errors | Indicates the total number of parse errors in the message. |
| Parse-Msc-Errors | Indicates the total number of parse errors in MSC AVP. |
| Misc | Indicates the total number of other miscellaneous errors. |
| CC Traffic Category Stats | |
| Category Creates | The total traffic categories created. |
| Category Deletes | The total traffic categories deleted. |
| Category Lookups | The total traffic categories available. |
| Hits | The total traffic categories triggered. |
| Misses | The total traffic categories triggered and missed. |
| Trigger Events | The total traffic categories triggered. |
| Final Unit Consumed | The total units consumed by subscriber during session. |
| MSCC GSU Null Grant | The total number of GSUs with zero grant (null quota). |
| MSCC FUI Redirect | The total number of HTTP redirections (FUIs with redirect and redirect address received). |
| Category Success | The total number of successful traffic category sessions. |
| Rating Failed | The total Rating Groups failed during session. |
| Service Denied | The total number of services denied during session. |
| Limit Reached | The total number of events when subscriber reached quota limit. |
| Auth Rejected | The total number of authorization rejected. |
| Other Errors | The total number of miscellaneous/unknown errors not specified by system. |
| CCA Initial Message Stats | |
| Result Code 2001 | This counter shows how many CCA-I messages have been received with a Diameter Result-Code=2001 at command level. |
| Result Code 5003 | This counter shows how many CCA-I messages have been received with a Diameter Result-Code=5003 at command level. |
| Result Code 4011 | This counter shows how many CCA-I messages have been received with a Diameter Result-Code=4011 at command level. |

| Field | Description |
|-----------------------------------|---|
| Result Code 4012 | This counter shows how many CCA-I messages have been received with a Diameter Result-Code=4012 at command level. |
| CCA Update Message Stats | |
| Result Code 2001 | This counter counts how many CCA-U messages have been received with a Diameter Result-Code=2001 at command level. |
| Result Code 5003 | This counter counts how many CCA-U messages have been received with a Diameter Result-Code=5003 at command level. |
| Result Code 4011 | This counter counts how many CCA-U messages have been received with a Diameter Result-Code=4011 at command level. |
| Result Code 4012 | This counter counts how many CCA-U messages have been received with a Diameter Result-Code=4012 at command level. |
| CCA Event Message Stats | |
| Result Code 2001 | This counter counts how many CCA-Event messages have been received with a Diameter Result-Code=2001 at command level. |
| Other Result Codes | This counter counts how many CCA-Event messages have been received with a Diameter Result-Code other than 2001 at command level. |
| Failure Handling Stats | |
| Action-Terminated | This counter counts how many times the DCCA failure handling with action terminate has been invoked in each measurement interval. |
| Action-Continue | This counter counts how many times the DCCA failure handling with action continue has been invoked in each measurement interval. |
| Offline Active Sessions | This counter counts the current number of active data sessions that are converted from online to offline charging due to DCCA failure handling actions. |
| CCA Result Code 2xxx Stats | |
| Result Code 2xxx | This counter counts how many CCA messages have been received with a Diameter Result-Code in the range of 2000 to 2999 at command level. |
| Result Code 2001 | This counter counts how many CCA messages have been received with a Diameter Result-Code=2001 at command level. |
| Result Code 2002 | This counter counts how many CCA messages have been received with a Diameter Result-Code=2002 at command level. |
| CCA Result Code 4xxx Stats | |

| Field | Description |
|---|--|
| Result Code 4001 | This counter counts how many CCA messages have been received with a Diameter Result-Code=4001 at command level. |
| Result Code 4002 | This counter counts how many CCA messages have been received with a Diameter Result-Code=4002 at command level. |
| Result Code 4011 | This counter counts how many CCA messages have been received with a Diameter Result-Code=4011 at command level. |
| Result Code 4012 | This counter counts how many CCA messages have been received with a Diameter Result-Code=4012 at command level. |
| CCA Result Code 5xxx Stats | |
| Result Code 5001 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5001 at command level. |
| Result Code 5002 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5002 at command level. |
| Result Code 5003 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5003 at command level. |
| Result Code 5004 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5004 at command level. |
| Result Code 5005 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5005 at command level. |
| Result Code 5006 | This counter counts how many CCA messages have been received with a Diameter Result-Code=5006 at command level. |
| All Other Result Codes | This counter counts how many CCA messages have been received with all other Diameter Result-Codes. |
| CCA Initial Experimental Result Code Stats | |
| Exp Result Code 5199 | <p>This counter indicates the number of times the Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199)" is received in the Credit Control response message.</p> <p>This result code is introduced in Release 19 to maintain session uniqueness and avoid stale message processing.</p> <p>Important Maintaining Session Uniqueness is a customer-specific feature. For more information, contact your Cisco account representative.</p> |
| OCS Unreachable Stats | |
| Tx-Expiry | This counter indicates how many server-unreachable actions are triggered after tx-expiry. |

| Field | Description |
|---|---|
| Response-TimeOut | This counter indicates how many server-unreachable actions are triggered after Response-Timeout. |
| Connection-Failure | This counter indicates how many server-unreachable behaviours are triggered after the server connection failure. |
| Action-Continue | This counter indicates how many times the DCCA failure handling with action continue has been invoked in each measurement interval after attaining Server-Unreachable State. |
| Action-Terminated | This counter indicates how many times the DCCA failure handling with action terminate has been invoked in each measurement interval after attaining Server-Unreachable State. |
| Server Retries | This counter indicates the total number of times the retries to the Diameter server were attempted. |
| Assumed-Positive Sessions | |
| Important This statistic is customer-specific. For more information, please contact your local Cisco account representative. | |
| Current | This counter indicates the current number of sessions in Assume Positive state. Important This is a customer-specific field. |
| Cumulative | This counter indicates the cumulative sessions in Assume Positive state. Important This is a customer-specific field. |
| HDD Stats | |
| CCR-T | This counter indicates the total number of records written to Hard Disk Drive (HDD) per Credit-Control group. |

show active-charging database uidh

Table 37: show active-charging database uidh Command Output Descriptions

| Field | Description |
|-------------------|--------------------------------------|
| UIDH Databases | Specifies the UIDH Database. |
| URL-Host Database | Specifies the UIDH URL Host Database |
| Source File | Species the databases source file |
| Database Status | Specifies the status of the database |

| Field | Description |
|-------------------------|--|
| Version | Specifies the database version. |
| Number of entries in DB | Specifies the name of database entries. |
| Last Upgrade Status | Specifies when the database was last upgraded. |

show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose

Table 38: show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose Command Output Descriptions

| Field | Description |
|----------------------|---|
| Sessmgr Instance | The Session Manager instance number. |
| Pattern | The domain name pattern. Important In releases prior to 14.0, this field displays information about all configured patterns even though the pattern has not learnt any IP address. In 14.0 and later releases, this field displays only the patterns for which at least one IPv4/IPv6 address and CNAMES are learnt. That is, the DNS Snooping pools are displayed only if there are learnt IP for the pool. |
| Rulebase | The ACS rulebase name. Important In releases prior to 14.0, this field displays the name of all configured rulebases even though the pattern has not learnt any IP address. In 14.0 and later releases, this field displays only the rulebase name for the patterns for which at least one IPv4/IPv6 address and CNAMES are learnt. That is, the DNS Snooping pools are displayed only if there are learnt IP for the pool. |
| List of CNAMES | The list of canonical names. |
| Destination Context | Name of the destination context. |
| Total-ipv4-entries | Total number of new IPv4 addresses received (learnt). |
| Ipv4-Entries-flushed | Total number IPv4 entries with TTL expired (flushed). |
| Ipv4-TTL-replaced | Total number of IPv4 entries with TTL value replaced with new value. |

| Field | Description |
|-------------------------------|---|
| Ipv4-Overflows | Total number of IPv4 overflows. Ipv4-Overflows will start incrementing when maximum limit of 51200 across system is reached OR limit of 200 per pattern is reached. |
| Total-ipv6-entries | Total number of new IPv6 addresses received (learnt). |
| Ipv6-Entries-flushed | Total number IPv6 entries with TTL expired (flushed). |
| Ipv6-TTL-replaced | Total number of IPv6 entries with TTL value replaced with new value. |
| Ipv6-Overflows | Total number of IPv6 overflows. Ipv6-Overflows will start incrementing when maximum limit of 25600 across system is reached OR limit of 100 per pattern is reached. |
| Ipv4 Address TTL (in secs) | The list of learnt IPv4 addresses, and the TTL, in seconds. |
| Ipv6 Address TTL (in secs) | The list of learnt IPv6 addresses, and the TTL, in seconds. |
| Summary | |
| Total learnt ipv4 entries | A summary of the total number of new IPv4 addresses received (learnt). Important This field is available only in StarOS 12.2 and in StarOS 14.0 and later releases. |
| Total learnt ipv6 entries | A summary of the total number of new IPv6 addresses received (learnt). Important This field is available only in StarOS 12.2 and in StarOS 14.0 and later releases. |

show active-charging edr-format all

Table 39: show active-charging edr-format all Command Output Descriptions

| Field | Description |
|-----------------|--------------------------------------|
| Service Name | Name of the Active Charging Service. |
| EDR Format Name | Name of the configured EDR format. |

| Field | Description |
|---------------------------|--|
| Attribute | Attribute information configured in specific EDR format. |
| Total edr-format(s) found | The total number of configured existing EDR formats. |

show active-charging edr-format statistics

Table 40: show active-charging edr-format statistics Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| Total edr-formats | The total number of EDR formats configured. |
| Total edrs generated | The total number of EDRs generated. |
| Total edrs truncated | The total number of EDRs truncated. |
| Total NAT bind records generated | The total number of Network Address Translation (NAT) bind records generated. The field is only displayed, if configured, in 8.3 and later releases. |

show active-charging edr-udr-file flow-control-counters

Table 41: show active-charging edr-udr-file flow-control-counters Command Output Descriptions

| Field | Description |
|--|--|
| Num of Times Flow Control initiated | Total number of times the flow control initiated. |
| Num of Outstanding Messages | Total number outstanding messages for flow control. |
| Num of unsent Messages | Total number unsent messages for flow control. |
| Num of CDR records Discarded due to flow control | Total number of charging detail records (CDRs) discarded due to flow control action. |
| Last flow control occurrence | Date and time of the last occurrence of flow control action. |

show active-charging edr-udr-file statistics

Table 42: show active-charging edr-udr-file statistics Command Output Descriptions

| Field | Description |
|-------------------------|-------------|
| EDR-UDR file Statistics | |

| Field | Description |
|--|--|
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Overall Statistics | |
| Files rotated | Total number of EDR and UDR files rotated. |
| Files rotated due to volume limit | Total number of EDR and UDR files rotated due to volume limit. |
| Files rotated due to time limit | Total number of EDR and UDR files rotated due to time limit. |
| Files rotated due to records limit | Total number of files rotated because of record limits. |
| File rotation failures | Total number of times rotation failed for EDR and UDR file. |
| Files deleted | Total number of EDR and UDR files deleted. |
| Records deleted | Total number of records deleted. |
| Records received | Total number of records received. |
| Files received | Total number of EDR and UDR files received by service. |
| Current open files | Total number of EDR and UDR files open. |
| Time of last file deletion | Date and time of last EDR/UDR file deleted. |
| EDR Specific Statistics | |
| EDR files rotated | Total number of EDR files rotated. |
| EDR files rotated due to volume limit | Total number of EDR files rotated due to volume limit. |
| EDR files rotated due to time limit | Total number of EDR files rotated due to time limit. |
| EDR files rotated due to records limit | Total number of EDR files rotated due to records limit |
| EDR file rotation failures | Total number of rotation failed for EDR file. |
| EDR files deleted | Total number of EDR files deleted. |
| EDR records deleted | Total number of EDR records deleted. |
| EDR records received | Total number of EDR records received. |
| Current open EDR files | Total number of EDR files open. |
| Time of last EDR file deletion | Date and time of last EDR file deleted. |
| UDR Specific Statistics | |
| UDR files rotated | Total number of UDR files rotated. |
| UDR files rotated due to volume limit | Total number of UDR files rotated due to volume limit. |
| UDR files rotated due to time limit | Total number of UDR files rotated due to time limit. |

| Field | Description |
|---|---|
| UDR files rotated due to records limit | Total number of UDR files rotated due to records limit. |
| UDR files rotation failures | Total number of rotation failed for UDR file. |
| UDR files deleted | Total number of UDR files deleted. |
| UDR records deleted | Total number of UDR records deleted. |
| UDR records received | Total number of UDR records received. |
| Current open UDR files | Total number of UDR files open. |
| Time of last UDR file deletion | Date and time of last UDR file deletion. |
| EDR-UDR PUSH Statistics | |
| Overall Statistics | |
| Primary Server Statistics | |
| Secondary Server Statistics | |
| Successful File Transfers | Total number of successful file transfers. |
| Failed File Transfers | Total number of failed file transfers. |
| Num of times PUSH initiated | Total number of times an EDR/UDR push attempt was initiated. |
| Num of times PUSH Failed | Total number of times an EDR/UDR push attempt failed. |
| Num of times PUSH cancelled due to HD failure | Total number of times EDR/UDR push was cancelled due to hard disk failures. |
| Num of periodic PUSH | Total number of periodic push. |
| Num of manual PUSH | Total number of manual push. |
| Current status of PUSH | Current status of push: Running/Not Running |
| Last completed PUSH time | The date and time the last push completed. |

show active-charging firewall statistics

Table 43: show active-charging firewall statistics Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| Firewall Statistics for context | Name of the context. |
| Data Stats: | |
| Total Packets Received | Total number of packets received by Stateful Firewall. |

| Field | Description |
|--|--|
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of uplink packets dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of uplink bytes dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of downlink packets dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of downlink bytes dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |
| Total NAT Flows Processed by Firewall | Total number of NAT flows processed by Stateful Firewall. |
| Total NAT44 Flows Processed by Firewall | Total number of NAT44 flows processed by Stateful Firewall. |
| Total NAT64 Flows Processed by Firewall | Total number of NAT64 flows processed by Stateful Firewall. |
| Total Bypass-NAT Flows Processed by Firewall | Total number of Bypass-NAT flows processed by Stateful Firewall. |
| Total Bypass-NAT44 Flows Processed by Firewall | Total number of Bypass-NAT44 flows processed by Stateful Firewall. |
| Total Bypass-NAT64 Flows Processed by Firewall | Total number of Bypass-NAT64 flows processed by Stateful Firewall. |
| Current Flows Processed by Firewall | Current number of flows processed by Stateful Firewall. |
| Current NAT Flows Processed by Firewall | Current number of NAT flows processed by Stateful Firewall. |
| Current NAT44 Flows Processed by Firewall | Current number of NAT44 flows processed by Stateful Firewall. |
| Current NAT64 Flows Processed by Firewall | Current number of NAT64 flows processed by Stateful Firewall. |
| Current Bypass-NAT Flows Processed by Firewall | Current number of Bypass-NAT flows processed by Stateful Firewall. |
| Current Bypass-NAT44 Flows Processed by Firewall | Current number of Bypass-NAT44 flows processed by Stateful Firewall. |

| Field | Description |
|--|--|
| Current Bypass-NAT64 Flows Processed by Firewall | Current number of Bypass-NAT64 flows processed by Stateful Firewall. |

show active-charging firewall statistics nat-realm

Table 44: show active-charging firewall statistics nat-realm Command Output Descriptions

| Field | Description |
|------------------------------------|--|
| Firewall Statistics for NAT-realm | The NAT realm name for which the statistics are displayed. |
| Data Stats: | |
| Total Packets Received | Total number of packets received by the NAT realm. |
| Total Bytes Received | Total number of bytes received by the NAT realm. |
| Total Packets Sent | Total number of packets sent by the NAT realm. |
| Total Bytes Sent | Total number of bytes sent by the NAT realm. |
| Total Packets Injected | Total number of packets injected by the NAT realm. |
| Total Bytes Injected | Total number of bytes injected by the NAT realm. |
| Uplink Packets Dropped | Total number of uplink packets dropped by the NAT realm. |
| Uplink Bytes Dropped | Total number of uplink bytes dropped by the NAT realm. |
| Downlink Packets Dropped | Total number of downlink packets dropped by the NAT realm. |
| Downlink Bytes Dropped | Total number of downlink bytes dropped by the NAT realm. |
| Total Malformed Packets | Total number of malformed packets detected by the NAT realm. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by the NAT realm. |
| Total Flows Processed by NAT-realm | Total number of flows processed by the NAT realm. |

show active-charging firewall statistics verbose

Table 45: show active-charging firewall statistics verbose Command Output Descriptions

| Field | Description |
|---------------------------------|----------------------|
| Firewall Statistics for Context | Name of the context. |

| Field | Description |
|---|--|
| IP Stats: | |
| Land Attacks | Total number of Land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of Jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of Teardrop attacks detected by Stateful Firewall. |
| Zero Length IP Option | Total number of Zero-length IP option attacks detected by Stateful Firewall. |
| IP Source-router Attacks | Total number of IP Source-router attacks detected by Stateful Firewall. |
| Packets with IP-Unaligned-Timestamp | Total number of packets with IP unaligned timestamps detected by Stateful Firewall. |
| Packets with Short IP Header Length | Total number of packets with short IP header length detected by Stateful Firewall. |
| Packets Dropped due to IP Checksum Errors | Total number of packets dropped due to IP Checksum error. |
| Downlink Dropped Bytes on IP Reassembly Failure | Total number of downlink bytes dropped on IP Reassembly failure. |
| Uplink Dropped Bytes on IP Reassembly Failure | Total number of uplink bytes dropped on IP Reassembly failure. |
| TCP Stats: | |
| Data Packets Received After RST/FIN | Total number of data packets received after receiving RST (reset) request by Stateful Firewall. |
| Invalid SEQ Number Received with RST | Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall. |
| Data without Connection Established | Total number of data packets received before the establishment of connection by Stateful Firewall. |
| Invalid TCP Connection Requests | Total number of invalid TCP connection requests received by Stateful Firewall. |
| Invalid TCP pre-connection Requests | Total number of invalid TCP pre-connection requests received by Stateful Firewall. |
| Invalid ACK Value (Cookie Enabled) | Total number of invalid ACK values (to enable cookies) received by Stateful Firewall. |
| Invalid TCP Packet Length | Total number of TCP packets with invalid length received by Stateful Firewall. |
| Packets with Short TCP Header Length | Total number of TCP packets with invalid/short header length received by Stateful Firewall. |
| Packets Dropped due to TCP Checksum Errors | Total number of packets dropped due to TCP Checksum error. |

| Field | Description |
|--|--|
| Packets with SEQ/ACK Out-of-range | Total number of packets with out of range SEQ/ACK. |
| TCP Null Scan Attacks | Total number of TCP Null Scan attacks detected by Stateful Firewall. |
| Post Connection SYN | Total number of Post Connection SYN attacks detected by Stateful Firewall. |
| Unable to Send SYN Packet | Total number of attempts detected by Stateful Firewall when node failed to send SYN packets. |
| Send Final ACK to Target Failed | Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node. |
| Invalid TCP Packet: SYN-ACK Expected | Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets. |
| No TCP Flags Set | Total number of TCP packets received with no flags set. |
| All TCP Flags Set | Total number of TCP flags received with all flags set. |
| Invalid TCP Packets | Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall. |
| Flows Closed by RST before 3-Way Handshake | Total number flows closed by RST (reset) message before the 3-way handshaking. |
| Flows Timed-out in SYN_RCVD1 State | Total number of flows timed out in SYN_RCVD1 state. |
| Flows Timed-out in SYN_RCVD2 State | Total number of flows timed out in SYN_RCVD2 state. |
| Flows Terminated due to WinNuke Attack | Total number of flows terminated due to WinNuke attacks by Stateful Firewall. |
| TCP-SYN Flood Attacks | Total number of TCP-SYN Flood attacks detected by Stateful Firewall. |
| Packets Dropped on TCP-SYN Flood Attack | Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks. |
| FTP-Bounce Attacks | Total number of FTP-Bounce attacks detected by Stateful Firewall. |
| Mime-Flood Attacks | Total number of Mime-Flood attacks detected by Stateful Firewall. |
| Proxy Handshakes Completed | Total number of times proxy handshake was completed. |
| Packets Dropped due to source port zero | Total number of packets dropped due to source port zero error. |
| SYN Packets Dropped due to ECE/CWR Set | Total number of SYN packets dropped due to ECE/CWR Flags Set. |
| Packets Dropped on TCP-SYN IP-Sweep Attack (DL/UL) | Total number of packets dropped due to TCP-SYN IP sweep attacks in downlink and uplink direction. |

| Field | Description |
|--|--|
| UDP Stats: | |
| Invalid UDP Echo Response | Total number of invalid UDP echo responses. |
| Invalid UDP Packet Length | Total number of invalid UDP packet length. |
| Packets Dropped due to UDP Checksum Errors | Total number of packets dropped due to UDP Checksum errors. |
| Packets with Short UDP Header Length | Total number of packets with short UDP header length. |
| Packets Dropped on UDP Flood Attack | Total number of packets dropped by Stateful Firewall in UDP flood attacks. |
| Packets Dropped due to exceeding ICMP dest unreachable threshold | Total number of packets dropped due to exceeding ICMP destination unreachable threshold. |
| Packets Dropped on UDP IP-Sweep Attack (DL/UL) | Total number of packets dropped due to UDP IP sweep attacks in downlink and uplink direction. |
| ICMP Stats: | |
| Invalid ICMP Response | Total number of invalid ICMP responses. |
| ICMP Reply Error | Total number of ICMP reply errors. |
| Invalid ICMP Type Packet | Total number of invalid ICMP type packets. |
| ICMP Error Message Replay Attacks | Total number of ICMP error message replay attacks detected by Stateful Firewall. |
| ICMP Packets with Duplicate Sequence Number | Total number of ICMP packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |
| Invalid ICMP Packet Length | Total number of packets with invalid ICMP packet length. |
| Packets Dropped on ICMP Flood Attack | Total number of packets dropped by Stateful Firewall in ICMP flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMP Checksum Errors | Total number of packets dropped due to ICMP Checksum error. |
| ICMP Packets With Destination Unreachable Message | Total number of ICMP packets with destination unreachable message. |
| ICMP Echo Packets Dropped due to ID Zero | Total number of ICMP echo packets dropped due to zero ID. |
| Packets Dropped on ICMP IP-Sweep Attack (DL/UL) | Total number of packets dropped due to ICMP IP sweep attacks in downlink and uplink direction. |
| ICMPv6 Stats: | |

| Field | Description |
|---|--|
| Invalid ICMPv6 Response | Total number of invalid ICMPv6 responses. |
| ICMPv6 Reply Error | Total number of ICMPv6 reply errors. |
| Invalid ICMPv6 Type Packet | Total number of invalid ICMPv6 type packets. |
| ICMPv6 Error Message Replay Attacks | Total number of ICMPv6 error message replay attacks detected by Stateful Firewall. |
| ICMPv6 Packets with Duplicate Sequence Number | Total number of ICMPv6 packets with duplicate sequence numbers. |
| Packets with Short ICMPv6 Header Length | Total number of packets with short ICMPv6 header length. |
| Invalid ICMPv6 Packet Length | Total number of packets with invalid ICMPv6 packet length. |
| Packets Dropped on ICMPv6 Flood Attack | Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMPv6 Checksum Errors | Total number of packets dropped due to ICMPv6 Checksum error. |
| ICMPv6 Packets With Destination Unreachable Message | Total number of ICMPv6 packets with destination unreachable message. |
| ICMPv6 Echo Packets Dropped due to ID Zero | Total number of ICMPv6 echo packets dropped due to zero ID. |
| IPv6 Stats: | |
| Land Attacks | Total number of land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of teardrop attacks detected by Stateful Firewall. |
| Invalid IP Option Length | Total number of packets with invalid IP option length. |
| IPv6 Source-router Attacks | Total number of IPv6 source-router attacks detected by Stateful Firewall. |
| Packets with Short IPv6 Header Length | Total number of packets with short IPv6 header length detected by Stateful Firewall. |
| Packets with Nested Fragmentation Header | Total number of packets with nested fragmentation header. |
| Packets with Unspecified IPv6 Address | Total number of packets with unspecified IPv6 address. |
| Packets with invalid Payload Length | Total number of packets with invalid payload length. |
| Packets with more than threshold Extension Headers | Total number of packets with more than threshold extension headers. |

| Field | Description |
|--|---|
| Packets with invalid Hop By Hop Extension Header | Total number of packets with invalid hop by hop extension header. |
| Packets with ICMPv4 in IPv6 Header | Total number of packets with ICMPv4 in IPv6 header. |
| Packets with invalid Destination Extension Header | Total number of packets with invalid destination extension header. |
| Downlink Dropped Bytes on IPv6 Reassembly Failure | Total number of downlink bytes dropped on IPv6 Reassembly failure. |
| Uplink Dropped Bytes on IPv6 Reassembly Failure | Total number of uplink bytes dropped on IPv6 Reassembly failure. |
| General Stats: | |
| Packets without Any Data Received | Total number of packets received without any data. |
| No Matching Uplink Ruledef | Total number of uplink packets with no matching ruledef. |
| No Matching Downlink Ruledef | Total number of downlink packets with no matching ruledef. |
| Deny Ruledef Matched | Total number of times deny ruledef was matched. |
| Packets Dropped due to No Ruledef in Rulebase | Total number of packets dropped due to no ruledef in rulebase. Important This field is deprecated in release 15.0 and later releases. |
| Packets Dropped due to Miscellaneous Errors | Total number of packets dropped due to miscellaneous errors. |
| Flows Timed-out | Total number of flows that timed out. |
| Flows Not Established from External Network | Total number of flows from external networks that were not established. |
| Max Flows Limit Reached | Total number of times the maximum flows limit was reached. |
| ALG statistics: | |
| Packets dropped by SIP ALG | Total number of packets dropped by SIP ALG. |
| Packets injected by SIP ALG | Total number of packets injected by SIP ALG. |
| NAT Packet Dropped Statistics: | |
| Packets dropped due to NAT no available IP/port | Total number of packets dropped due to non-availability of NAT IP/port. |
| Packets dropped due to NAT binding allocation failure | Total number of packets dropped due to NAT binding allocation failure. |
| Packets dropped due to NAT Translation failed on unsupported ICMP code | Total number of packets dropped due to NAT Translation failed on unsupported ICMP code. |
| Packets dropped due to NAT Translation failed on invalid Param Problem | Total number of packets dropped due to NAT Translation failed on invalid param problem. |

| Field | Description |
|--|--|
| Packets dropped due to IPv6 routing header with non-zero segments left | Total number of packets dropped due to IPv6 routing header with non-zero segments left. |
| Packets dropped due to Unsupported Embedded IPv4 Address | Total number of packets dropped due to unsupported embedded IPv4 address. |
| Packets dropped due to Destination IPv6 Prefix Mismatch | Total number of packets due to IPv6 prefix mismatch for a given destination. |
| Packets dropped due to MAX port chunks reached | Total number of packets dropped due to reaching the maximum number of port chunks usage limit. |
| Packets dropped due to non-availability of port chunks | Total number of packets dropped due to non-availability of port chunks. |
| Data Stats: | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets (NAT64 Translation) | Total number of packets reduced by NAT64 translation. |
| Total Bytes Reduced (NAT64 Translation) | Total number of bytes reduced by NAT64 translation. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |
| Total NAT Flows Processed by Firewall | Total number of NAT flows processed by Stateful Firewall. |
| Total NAT44 Flows Processed by Firewall | Total number of NAT44 flows processed by Stateful Firewall. |

| Field | Description |
|--|--|
| Total NAT64 Flows Processed by Firewall | Total number of NAT64 flows processed by Stateful Firewall. |
| Total Bypass-NAT Flows Processed by Firewall | Total number of Bypass-NAT flows processed by Stateful Firewall. |
| Total Bypass-NAT44 Flows Processed by Firewall | Total number of Bypass-NAT44 flows processed by Stateful Firewall. |
| Total Bypass-NAT64 Flows Processed by Firewall | Total number of Bypass-NAT64 flows processed by Stateful Firewall. |
| Current Flows Processed by Firewall | Current number of flows processed by Stateful Firewall. |
| Current NAT Flows Processed by Firewall | Current number of NAT flows processed by Stateful Firewall. |
| Current NAT44 Flows Processed by Firewall | Current number of NAT44 flows processed by Stateful Firewall. |
| Current NAT64 Flows Processed by Firewall | Current number of NAT64 flows processed by Stateful Firewall. |
| Current Bypass-NAT Flows Processed by Firewall | Current number of Bypass-NAT flows processed by Stateful Firewall. |
| Current Bypass-NAT44 Flows Processed by Firewall | Current number of Bypass-NAT44 flows processed by Stateful Firewall. |
| Current Bypass-NAT64 Flows Processed by Firewall | Current number of Bypass-NAT64 flows processed by Stateful Firewall. |

show active-charging firewall statistics protocol icmp verbose

Table 46: show active-charging firewall statistics protocol icmp verbose Command Output Descriptions

| Field | Description |
|---|--|
| Firewall Statistics for Protocol: ICMP | |
| ICMP Stats | |
| Invalid ICMP Response | Total number of invalid ICMP responses. |
| ICMP Reply Error | Total number of ICMP reply errors. |
| Invalid ICMP Type Packet | Total number of invalid ICMP type packets. |
| ICMP Error Message Replay Attacks | Total number of ICMP error message replay attacks detected by Stateful Firewall. |
| ICMP Packets with Duplicate Sequence Number | Total number of ICMP packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |

| Field | Description |
|---|---|
| Invalid ICMP Packet Length | Total number of packets with invalid ICMP packet length. |
| Packets Dropped on ICMP Flood Attack | Total number of packets dropped by Stateful Firewall in ICMP flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMP Checksum Errors | Total number of packets dropped due to ICMP Checksum error. |
| ICMP Packets With Destination Unreachable Message | Total number of ICMP packets with destination unreachable message. |
| ICMP Echo Packets Dropped due to ID Zero | Total number of ICMP echo packets dropped due to zero ID. |
| Data Stats | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |
| Total NAT Flows Processed by Firewall | Total number of NAT flows processed by Stateful Firewall. |

show active-charging firewall statistics protocol icmpv6 verbose

Table 47: show active-charging firewall statistics protocol icmpv6 verbose Command Output Descriptions

| Field | Description |
|---|--|
| Firewall Statistics for Protocol: ICMPv6 | |
| ICMPv6 Stats | |
| Invalid ICMPv6 Response | Total number of invalid ICMPv6 responses. |
| ICMPv6 Reply Error | Total number of ICMPv6 reply errors. |
| Invalid ICMPv6 Type Packet | Total number of invalid ICMPv6 type packets. |
| ICMPv6 Error Message Replay Attacks | Total number of ICMPv6 error message replay attacks detected by Stateful Firewall. |
| ICMPv6 Packets with Duplicate Sequence Number | Total number of ICMPv6 packets with duplicate sequence numbers. |
| Packets with Short ICMPv6 Header Length | Total number of packets with short ICMPv6 header length. |
| Invalid ICMPv6 Packet Length | Total number of packets with invalid ICMPv6 packet length. |
| Packets Dropped on ICMPv6 Flood Attack | Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMPv6 Checksum Errors | Total number of packets dropped due to ICMPv6 Checksum error. |
| ICMPv6 Packets With Destination Unreachable Message | Total number of ICMPv6 packets with destination unreachable message. |
| ICMPv6 Echo Packets Dropped due to ID Zero | Total number of ICMPv6 echo packets dropped due to zero ID. |
| Data Stats | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |

| Field | Description |
|---------------------------------------|--|
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |
| Total NAT Flows Processed by Firewall | Total number of NAT flows processed by Stateful Firewall. |

show active-charging firewall statistics protocol ip verbose

Table 48: show active-charging firewall statistics protocol ip verbose Command Output Descriptions

| Field | Description |
|---|--|
| Firewall Statistics for Protocol IP in Context | Name of the context. |
| IP Stats: | |
| Land Attacks | Total number of Land attacks detected. |
| Jolt Attacks | Total number of Jolt attacks detected. |
| Teardrop Attacks | Total number of Teardrop attacks detected. |
| Zero Length IP Option | Total number of Zero-length IP Option attacks detected. |
| IP Source-router Attacks | Total number of IP Source-router attacks detected. |
| Packets with IP-Unaligned-Timestamp | Total number of packets with IP-Unaligned-Timestamp. |
| Packets with Short IP Header Length | Total number of packets with short IP header length. |
| Packets Dropped due to IP Checksum Errors | Total number of packets dropped due to checksum errors. |
| Downlink Dropped Bytes on IP Reassembly Failure | Total number of bytes dropped in downlink flow on IP Reassembly failure. |
| Uplink Dropped Bytes on IP Reassembly Failure | Total number of bytes dropped in uplink flow on IP Reassembly failure. |

| Field | Description |
|-----------------------------------|--|
| Data Stats: | |
| Total Packets Received | Total number of packets received by Stateful Firewall. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of uplink packets dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of uplink bytes dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of downlink packets dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of downlink bytes dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |

show active-charging firewall statistics protocol ipv6 verbose

Table 49: show active-charging firewall statistics protocol ipv6 verbose Command Output Descriptions

| Field | Description |
|--|---|
| Firewall Statistics for Protocol: IPv6 | |
| IPv6 Stats | |
| Land Attacks | Total number of land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of teardrop attacks detected by Stateful Firewall. |
| Invalid IP Option Length | Total number of packets with invalid IP option length. |
| IPv6 Source-router Attacks | Total number of IPv6 source-router attacks detected by Stateful Firewall. |
| Packets with Short IPv6 Header Length | Total number of packets with short IPv6 header length. |

| Field | Description |
|--|--|
| Packets with Nested Fragmentation Header | Total number of packets with nested fragmentation header. |
| Packets with Unspecified IPv6 Address | Total number of packets with unspecified IPv6 address. |
| Packets with invalid Payload Length | Total number of packets with invalid payload length. |
| Packets with more than threshold Extension Headers | Total number of packets with more than threshold extension headers. |
| Packets with invalid Hop By Hop Extension Header | Total number of packets with invalid hop by hop extension header. |
| Packets with ICMPv4 in IPv6 Header | Total number of packets with ICMPv4 in IPv6 header. |
| Packets with invalid Destination Extension Header | Total number of packets with invalid destination extension header. |
| Downlink Dropped Bytes on IPv6 Reassembly Failure | Total number of downlink bytes dropped due to reassembly failure. |
| Uplink Dropped Bytes on IPv6 Reassembly Failure | Total number of uplink bytes dropped due to reassembly failure. |
| Data Stats | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |
| Total NAT Flows Processed by Firewall | Total number of NAT flows processed by Stateful Firewall. |

show active-charging firewall statistics protocol udp verbose

Table 50: show active-charging firewall statistics protocol udp verbose Command Output Descriptions

| Field | Description |
|--|--|
| Firewall Statistics for Protocol: UDP | |
| UDP Stats | |
| Invalid UDP Echo Response | Total number of invalid UDP echo responses. |
| Invalid UDP Packet Length | Total number of invalid UDP packet length. |
| Packets Dropped due to UDP Checksum Errors | Total number of packets dropped due to UDP Checksum errors. |
| Packets with Short UDP Header Length | Total number of packets with short UDP header length. |
| Packets Dropped on UDP Flood Attack | Total number of packets dropped by Stateful Firewall in UDP flood attacks. |
| Packets Dropped due to exceeding ICMP dest unreachable threshold | Total number of packets dropped due to exceeding ICMP destination unreachable threshold. |
| Data Stats | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |

| Field | Description |
|-----------------------------------|---|
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |

show active-charging firewall statistics callid <call_id> verbose

Table 51: show active-charging firewall statistics callid <call_id> verbose Command Output Descriptions

| Field | Description |
|---|--|
| Firewall Statistics for Callid: <call_id> | |
| IP Stats: | |
| Land Attacks | Total number of Land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of Jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of Teardrop attacks detected by Stateful Firewall. |
| Invalid IP Option Length | Total number of Invalid IP Option Length attacks detected by Stateful Firewall. |
| IP Source-router Attacks | Total number of IP Source-router attacks detected by Stateful Firewall. |
| Packets with IP-Unaligned-Timestamp | Total number of packets with IP unaligned timestamps detected by Stateful Firewall. |
| Packets with Short IP Header Length | Total number of packets with short IP header length detected by Stateful Firewall. |
| Packets Dropped due to IP Checksum Errors | Total number of packets dropped due to IP Checksum error. |
| Downlink Dropped Bytes on IP Reassembly Failure | Total number of downlink bytes dropped on IP Reassembly failure. |
| Uplink Dropped Bytes on IP Reassembly Failure | Total number of uplink bytes dropped on IP Reassembly failure. |
| TCP Stats: | |
| Data Packets Received After RST/FIN | Total number of data packets received after receiving RST (reset) request by Stateful Firewall. |
| Invalid SEQ Number Received with RST | Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall. |
| Data without Connection Established | Total number of data packets received before the establishment of connection by Stateful Firewall. |

show active-charging firewall statistics callid <call_id> verbose

| Field | Description |
|--|--|
| Invalid TCP Connection Requests | Total number of invalid TCP connection requests received by Stateful Firewall. |
| Invalid TCP pre-connection Requests | Total number of invalid TCP pre-connection requests received by Stateful Firewall. |
| Invalid ACK Value (Cookie Enabled) | Total number of invalid ACK values (to enable cookies) received by Stateful Firewall. |
| Invalid TCP Packet Length | Total number of TCP packets with invalid length received by Stateful Firewall. |
| Packets with Short TCP Header Length | Total number of TCP packets with invalid/short header length received by Stateful Firewall. |
| Packets Dropped due to TCP Checksum Errors | Total number of packets dropped due to TCP Checksum error. |
| Packets with SEQ/ACK Out-of-range | Total number of packets with out of range SEQ/ACK. |
| TCP Null Scan Attacks | Total number of TCP Null Scan attacks detected by Stateful Firewall. |
| Post Connection SYN | Total number of Post Connection SYN attacks detected by Stateful Firewall. |
| Unable to Send SYN Packet | Total number of attempts detected by Stateful Firewall when node failed to send SYN packets. |
| Send Final ACK to Target Failed | Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node. |
| Invalid TCP Packet: SYN-ACK Expected | Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets. |
| No TCP Flags Set | Total number of TCP packets received with no flags set. |
| All TCP Flags Set | Total number of TCP flags received with all flags set. |
| Invalid TCP Packets | Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall. |
| Flows Closed by RST before 3-Way Handshake | Total number flows closed by RST (reset) message before the 3-way handshaking. |
| Flows Timed-out in SYN_RCVD1 State | Total number of flows timed out in SYN_RCVD1 state. |
| Flows Timed-out in SYN_RCVD2 State | Total number of flows timed out in SYN_RCVD2 state. |
| Flows Terminated due to WinNuke Attack | Total number of flows terminated due to WinNuke attacks by Stateful Firewall. |
| TCP-SYN Flood Attacks | Total number of TCP-SYN Flood attacks detected by Stateful Firewall. |

| Field | Description |
|--|--|
| Packets Dropped on TCP-SYN Flood Attack | Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks. |
| FTP-Bounce Attacks | Total number of FTP-Bounce attacks detected by Stateful Firewall. |
| Mime-Flood Attacks | Total number of Mime-Flood attacks detected by Stateful Firewall. |
| Proxy Handshakes Completed | Total number of times proxy handshake was completed. |
| Packets Dropped during Proxy Handshake | Total number of packets dropped during proxy handshake. |
| UDP Stats: | |
| Invalid UDP Echo Response | Total number of invalid UDP echo responses. |
| Invalid UDP Packet Length | Total number of invalid UDP packet length. |
| Packets Dropped due to UDP Checksum Errors | Total number of packets dropped due to UDP Checksum errors. |
| Packets with Short UDP Header Length | Total number of packets with short UDP header length. |
| Packets Dropped on UDP Flood Attack | Total number of packets dropped by Stateful Firewall in UDP flood attacks. |
| Packets Dropped due to exceeding ICMP dest unreachable threshold | Total number of packets dropped due to exceeding ICMP destination unreachable threshold. |
| ICMP Stats: | |
| Invalid ICMP Response | Total number of invalid ICMP responses. |
| ICMP Reply Error | Total number of ICMP reply errors. |
| Invalid ICMP Type Packet | Total number of invalid ICMP type packets. |
| ICMP Error Message Replay Attacks | Total number of ICMP error message replay attacks detected by Stateful Firewall. |
| ICMP Packets with Duplicate Sequence Number | Total number of ICMP packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |
| Invalid ICMP Packet Length | Total number of packets with invalid ICMP packet length. |
| Packets Dropped on ICMP Flood Attack | Total number of packets dropped by Stateful Firewall in ICMP flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMP Checksum Errors | Total number of packets dropped due to ICMP Checksum errors. |
| ICMP Packets With Destination Unreachable Message | Total number of ICMP packets with Destination Unreachable Message. |

show active-charging firewall statistics callid <call_id> verbose

| Field | Description |
|---|---|
| ICMP Echo Packets Dropped due to ID Zero | Total number of ICMP echo packets dropped due to zero ID. |
| ICMPv6 Stats: | |
| Invalid ICMPv6 Response | Total number of invalid ICMPv6 responses. |
| ICMPv6 Reply Error | Total number of ICMPv6 reply errors. |
| Invalid ICMPv6 Type Packet | Total number of invalid ICMPv6 type packets. |
| ICMPv6 Error Message Replay Attacks | Total number of ICMPv6 error message replay attacks detected by Stateful Firewall. |
| ICMPv6 Packets with Duplicate Sequence Number | Total number of ICMPv6 packets with duplicate sequence numbers. |
| Packets with Short ICMPv6 Header Length | Total number of packets with short ICMPv6 header length. |
| Invalid ICMPv6 Packet Length | Total number of packets with invalid ICMPv6 packet length. |
| Packets Dropped on ICMPv6 Flood Attack | Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMPv6 Checksum Errors | Total number of packets dropped due to ICMPv6 Checksum errors. |
| ICMPv6 Packets With Destination Unreachable Message | Total number of ICMPv6 packets with Destination Unreachable Message. |
| ICMPv6 Echo Packets Dropped due to ID Zero | Total number of ICMPv6 echo packets dropped due to zero ID. |
| General Stats: | |
| Packets without Any Data Received | Total number of packets received without any data. |
| No Matching Uplink Ruledef | Total number of uplink packets with no matching ruledef. |
| No Matching Downlink Ruledef | Total number of downlink packets with no matching ruledef. |
| Deny Ruledef Matched | Total number of times deny ruledef was matched. |
| Packets Dropped due to No Ruledef in Rulebase | Total number of packets dropped due to no ruledef in rulebase. Important This field is deprecated in release 15.0 and later releases. |
| Packets Dropped due to Miscellaneous Errors | Total number of packets dropped due to miscellaneous errors. |
| Flows Timed-out | Total number of flows that timed out. |

| Field | Description |
|---|--|
| Flows Not Established from External Network | Total number of flows from external networks that were not established. |
| Max Flows Limit Reached | Total number of times the maximum flows limit was reached. |
| IP Retransmitted Packets Dropped | Total number of IP retransmitted packets dropped. |
| Data Stats: | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |

show active-charging firewall statistics domainname <domain_name> verbose

Table 52: show active-charging firewall statistics domainname <domain_name> verbose Command Output Descriptions

| Field | Description |
|--|-------------|
| Firewall Statistics for 2 Sessions with Domain-name: <domain_name> | |
| IP Stats: | |

show active-charging firewall statistics domainname <domain_name> verbose

| Field | Description |
|---|--|
| Land Attacks | Total number of Land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of Jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of Teardrop attacks detected by Stateful Firewall. |
| Invalid IP Option Length | Total number of Invalid IP Option Length attacks detected by Stateful Firewall. |
| IP Source-router Attacks | Total number of IP Source-router attacks detected by Stateful Firewall. |
| Packets with IP-Unaligned-Timestamp | Total number of packets with IP unaligned timestamps detected by Stateful Firewall. |
| Packets with Short IP Header Length | Total number of packets with short IP header length detected by Stateful Firewall. |
| Packets Dropped due to IP Checksum Errors | Total number of packets dropped due to IP Checksum error. |
| Downlink Dropped Bytes on IP Reassembly Failure | Total number of downlink bytes dropped on IP Reassembly failure. |
| Uplink Dropped Bytes on IP Reassembly Failure | Total number of uplink bytes dropped on IP Reassembly failure. |
| TCP Stats: | |
| Data Packets Received After RST/FIN | Total number of data packets received after receiving RST (reset) request by Stateful Firewall. |
| Invalid SEQ Number Received with RST | Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall. |
| Data without Connection Established | Total number of data packets received before the establishment of connection by Stateful Firewall. |
| Invalid TCP Connection Requests | Total number of invalid TCP connection requests received by Stateful Firewall. |
| Invalid TCP pre-connection Requests | Total number of invalid TCP pre-connection requests received by Stateful Firewall. |
| Invalid ACK Value (Cookie Enabled) | Total number of invalid ACK values (to enable cookies) received by Stateful Firewall. |
| Invalid TCP Packet Length | Total number of TCP packets with invalid length received by Stateful Firewall. |
| Packets with Short TCP Header Length | Total number of TCP packets with invalid/short header length received by Stateful Firewall. |
| Packets Dropped due to TCP Checksum Errors | Total number of packets dropped due to TCP Checksum error. |
| Packets with SEQ/ACK Out-of-range | Total number of packets with out of range SEQ/ACK. |

| Field | Description |
|--|--|
| TCP Null Scan Attacks | Total number of TCP Null Scan attacks detected by Stateful Firewall. |
| Post Connection SYN | Total number of Post Connection SYN attacks detected by Stateful Firewall. |
| Unable to Send SYN Packet | Total number of attempts detected by Stateful Firewall when node failed to send SYN packets. |
| Send Final ACK to Target Failed | Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node. |
| Invalid TCP Packet: SYN-ACK Expected | Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets. |
| No TCP Flags Set | Total number of TCP packets received with no flags set. |
| All TCP Flags Set | Total number of TCP flags received with all flags set. |
| Invalid TCP Packets | Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall. |
| Flows Closed by RST before 3-Way Handshake | Total number flows closed by RST (reset) message before the 3-way handshaking. |
| Flows Timed-out in SYN_RCVD1 State | Total number of flows timed out in SYN_RCVD1 state. |
| Flows Timed-out in SYN_RCVD2 State | Total number of flows timed out in SYN_RCVD2 state. |
| Flows Terminated due to WinNuke Attack | Total number of flows terminated due to WinNuke attacks by Stateful Firewall. |
| TCP-SYN Flood Attacks | Total number of TCP-SYN Flood attacks detected by Stateful Firewall. |
| Packets Dropped on TCP-SYN Flood Attack | Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks. |
| FTP-Bounce Attacks | Total number of FTP-Bounce attacks detected by Stateful Firewall. |
| Mime-Flood Attacks | Total number of Mime-Flood attacks detected by Stateful Firewall. |
| Proxy Handshakes Completed | Total number of times proxy handshake was completed. |
| Packets Dropped during Proxy Handshake | Total number of packets dropped during proxy handshake. |
| UDP Stats: | |
| Invalid UDP Echo Response | Total number of invalid UDP echo responses. |
| Invalid UDP Packet Length | Total number of invalid UDP packet length. |
| Packets Dropped due to UDP Checksum Errors | Total number of packets dropped due to UDP Checksum errors. |

```
show active-charging firewall statistics domainname <domain_name> verbose
```

| Field | Description |
|--|--|
| Packets with Short UDP Header Length | Total number of packets with short UDP header length. |
| Packets Dropped on UDP Flood Attack | Total number of packets dropped by Stateful Firewall in UDP flood attacks. |
| Packets Dropped due to exceeding ICMP dest unreachable threshold | Total number of packets dropped due to exceeding ICMP destination unreachable threshold. |
| ICMP Stats: | |
| Invalid ICMP Response | Total number of invalid ICMP responses. |
| ICMP Reply Error | Total number of ICMP reply errors. |
| Invalid ICMP Type Packet | Total number of invalid ICMP type packets. |
| ICMP Error Message Replay Attacks | Total number of ICMP error message replay attacks detected by Stateful Firewall. |
| ICMP Packets with Duplicate Sequence Number | Total number of ICMP packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |
| Invalid ICMP Packet Length | Total number of packets with invalid ICMP packet length. |
| Packets Dropped on ICMP Flood Attack | Total number of packets dropped by Stateful Firewall in ICMP flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMP Checksum Errors | Total number of packets dropped due to ICMP Checksum errors. |
| ICMP Packets With Destination Unreachable Message | Total number of ICMP packets with Destination Unreachable Message. |
| ICMP Echo Packets Dropped due to ID Zero | Total number of ICMP echo packets dropped due to zero ID. |
| ICMPv6 Stats: | |
| Invalid ICMPv6 Response | Total number of invalid ICMPv6 responses. |
| ICMPv6 Reply Error | Total number of ICMPv6 reply errors. |
| Invalid ICMPv6 Type Packet | Total number of invalid ICMPv6 type packets. |
| ICMPv6 Error Message Replay Attacks | Total number of ICMPv6 error message replay attacks detected by Stateful Firewall. |
| ICMPv6 Packets with Duplicate Sequence Number | Total number of ICMPv6 packets with duplicate sequence numbers. |
| Packets with Short ICMPv6 Header Length | Total number of packets with short ICMPv6 header length. |

| Field | Description |
|---|---|
| Invalid ICMPv6 Packet Length | Total number of packets with invalid ICMPv6 packet length. |
| Packets Dropped on ICMPv6 Flood Attack | Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMPv6 Checksum Errors | Total number of packets dropped due to ICMPv6 Checksum errors. |
| ICMPv6 Packets With Destination Unreachable Message | Total number of ICMPv6 packets with Destination Unreachable Message. |
| ICMPv6 Echo Packets Dropped due to ID Zero | Total number of ICMPv6 echo packets dropped due to zero ID. |
| General Stats: | |
| Packets without Any Data Received | Total number of packets received without any data. |
| No Matching Uplink Ruledef | Total number of uplink packets with no matching ruledef. |
| No Matching Downlink Ruledef | Total number of downlink packets with no matching ruledef. |
| Deny Ruledef Matched | Total number of times deny ruledef was matched. |
| Packets Dropped due to No Ruledef in Rulebase | Total number of packets dropped due to no ruledef in rulebase. Important This field is deprecated in release 15.0 and later releases. |
| Packets Dropped due to Miscellaneous Errors | Total number of packets dropped due to miscellaneous errors. |
| Flows Timed-out | Total number of flows that timed out. |
| Flows Not Established from External Network | Total number of flows from external networks that were not established. |
| Max Flows Limit Reached | Total number of times the maximum flows limit was reached. |
| IP Retransmitted Packets Dropped | Total number of IP retransmitted packets dropped. |
| Data Stats: | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |

```
show active-charging firewall statistics username <user_name> verbose
```

| Field | Description |
|-----------------------------------|--|
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |

showactive-chargingfirewallstatisticsusername<user_name> verbose

Table 53: show active-charging firewall statistics username <user_name> verbose Command Output Descriptions

| Field | Description |
|---|---|
| Firewall Statistics for Username: <user_name> | |
| IP Stats: | |
| Land Attacks | Total number of Land attacks detected by Stateful Firewall. |
| Jolt Attacks | Total number of Jolt attacks detected by Stateful Firewall. |
| Teardrop Attacks | Total number of Teardrop attacks detected by Stateful Firewall. |
| Invalid IP Option Length | Total number of Invalid IP Option Length attacks detected by Stateful Firewall. |
| IP Source-router Attacks | Total number of IP Source-router attacks detected by Stateful Firewall. |
| Packets with IP-Unaligned-Timestamp | Total number of packets with IP unaligned timestamps detected by Stateful Firewall. |
| Packets with Short IP Header Length | Total number of packets with short IP header length detected by Stateful Firewall. |

| Field | Description |
|---|--|
| Packets Dropped due to IP Checksum Errors | Total number of packets dropped due to IP Checksum error. |
| Downlink Dropped Bytes on IP Reassembly Failure | Total number of downlink bytes dropped on IP Reassembly failure. |
| Uplink Dropped Bytes on IP Reassembly Failure | Total number of uplink bytes dropped on IP Reassembly failure. |
| TCP Stats: | |
| Data Packets Received After RST/FIN | Total number of data packets received after receiving RST (reset) request by Stateful Firewall. |
| Invalid SEQ Number Received with RST | Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall. |
| Data without Connection Established | Total number of data packets received before the establishment of connection by Stateful Firewall. |
| Invalid TCP Connection Requests | Total number of invalid TCP connection requests received by Stateful Firewall. |
| Invalid TCP pre-connection Requests | Total number of invalid TCP pre-connection requests received by Stateful Firewall. |
| Invalid ACK Value (Cookie Enabled) | Total number of invalid ACK values (to enable cookies) received by Stateful Firewall. |
| Invalid TCP Packet Length | Total number of TCP packets with invalid length received by Stateful Firewall. |
| Packets with Short TCP Header Length | Total number of TCP packets with invalid/short header length received by Stateful Firewall. |
| Packets Dropped due to TCP Checksum Errors | Total number of packets dropped due to TCP Checksum error. |
| Packets with SEQ/ACK Out-of-range | Total number of packets with out of range SEQ/ACK. |
| TCP Null Scan Attacks | Total number of TCP Null Scan attacks detected by Stateful Firewall. |
| Post Connection SYN | Total number of Post Connection SYN attacks detected by Stateful Firewall. |
| Unable to Send SYN Packet | Total number of attempts detected by Stateful Firewall when node failed to send SYN packets. |
| Send Final ACK to Target Failed | Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node. |
| Invalid TCP Packet: SYN-ACK Expected | Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets. |
| No TCP Flags Set | Total number of TCP packets received with no flags set. |

show active-charging firewall statistics username <user_name> verbose

| Field | Description |
|--|---|
| All TCP Flags Set | Total number of TCP flags received with all flags set. |
| Invalid TCP Packets | Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall. |
| Flows Closed by RST before 3-Way Handshake | Total number flows closed by RST (reset) message before the 3-way handshaking. |
| Flows Timed-out in SYN_RCVD1 State | Total number of flows timed out in SYN_RCVD1 state. |
| Flows Timed-out in SYN_RCVD2 State | Total number of flows timed out in SYN_RCVD2 state. |
| Flows Terminated due to WinNuke Attack | Total number of flows terminated due to WinNuke attacks by Stateful Firewall. |
| TCP-SYN Flood Attacks | Total number of TCP-SYN Flood attacks detected by Stateful Firewall. |
| Packets Dropped on TCP-SYN Flood Attack | Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks. |
| FTP-Bounce Attacks | Total number of FTP-Bounce attacks detected by Stateful Firewall. |
| Mime-Flood Attacks | Total number of Mime-Flood attacks detected by Stateful Firewall. |
| Proxy Handshakes Completed | Total number of times proxy handshake was completed. |
| Packets Dropped during Proxy Handshake | Total number of packets dropped during proxy handshake. |
| UDP Stats: | |
| Invalid UDP Echo Response | Total number of invalid UDP echo responses. |
| Invalid UDP Packet Length | Total number of invalid UDP packet length. |
| Packets Dropped due to UDP Checksum Errors | Total number of packets dropped due to UDP Checksum errors. |
| Packets with Short UDP Header Length | Total number of packets with short UDP header length. |
| Packets Dropped on UDP Flood Attack | Total number of packets dropped by Stateful Firewall in UDP flood attacks. |
| Packets Dropped due to exceeding ICMP dest unreachable threshold | Total number of packets dropped due to exceeding ICMP destination unreachable threshold. |
| ICMP Stats: | |
| Invalid ICMP Response | Total number of invalid ICMP responses. |
| ICMP Reply Error | Total number of ICMP reply errors. |
| Invalid ICMP Type Packet | Total number of invalid ICMP type packets. |

| Field | Description |
|---|--|
| ICMP Error Message Replay Attacks | Total number of ICMP error message replay attacks detected by Stateful Firewall. |
| ICMP Packets with Duplicate Sequence Number | Total number of ICMP packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |
| Invalid ICMP Packet Length | Total number of packets with invalid ICMP packet length. |
| Packets Dropped on ICMP Flood Attack | Total number of packets dropped by Stateful Firewall in ICMP flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMP Checksum Errors | Total number of packets dropped due to ICMP Checksum errors. |
| ICMP Packets With Destination Unreachable Message | Total number of ICMP packets with Destination Unreachable Message. |
| ICMP Echo Packets Dropped due to ID Zero | Total number of ICMP echo packets dropped due to zero ID. |
| ICMPv6 Stats: | |
| Invalid ICMPv6 Response | Total number of invalid ICMPv6 responses. |
| ICMPv6 Reply Error | Total number of ICMPv6 reply errors. |
| Invalid ICMPv6 Type Packet | Total number of invalid ICMPv6 type packets. |
| ICMPv6 Error Message Replay Attacks | Total number of ICMPv6 error message replay attacks detected by Stateful Firewall. |
| ICMPv6 Packets with Duplicate Sequence Number | Total number of ICMPv6 packets with duplicate sequence numbers. |
| Packets with Short ICMP Header Length | Total number of packets with short ICMP header length. |
| Invalid ICMPv6 Packet Length | Total number of packets with invalid ICMPv6 packet length. |
| Packets Dropped on ICMPv6 Flood Attack | Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks. |
| Ping Of Death Attacks | Total number of Ping-of-Death attacks detected by Stateful Firewall. |
| Packets Dropped due to ICMPv6 Checksum Errors | Total number of packets dropped due to ICMPv6 Checksum errors. |
| ICMPv6 Packets With Destination Unreachable Message | Total number of ICMPv6 packets with Destination Unreachable Message. |
| ICMPv6 Echo Packets Dropped due to ID Zero | Total number of ICMPv6 echo packets dropped due to zero ID. |

show active-charging firewall statistics username <user_name> verbose

| Field | Description |
|---|---|
| General Stats: | |
| Packets without Any Data Received | Total number of packets received without any data. |
| No Matching Uplink Ruledef | Total number of uplink packets with no matching ruledef. |
| No Matching Downlink Ruledef | Total number of downlink packets with no matching ruledef. |
| Deny Ruledef Matched | Total number of times deny ruledef was matched. |
| Packets Dropped due to No Ruledef in Rulebase | Total number of packets dropped due to no ruledef in rulebase. Important This field is deprecated in release 15.0 and later releases. |
| Packets Dropped due to Miscellaneous Errors | Total number of packets dropped due to miscellaneous errors. |
| Flows Timed-out | Total number of flows that timed out. |
| Flows Not Established from External Network | Total number of flows from external networks that were not established. |
| Max Flows Limit Reached | Total number of times the maximum flows limit was reached. |
| IP Retransmitted Packets Dropped | Total number of IP retransmitted packets dropped. |
| Data Stats: | |
| Total Packets Received | Total number of packets received in uplink and downlink flows. |
| Total Bytes Received | Total number of bytes received by Stateful Firewall. |
| Total Packets Sent | Total number of packets sent by Stateful Firewall. |
| Total Bytes Sent | Total number of bytes sent by Stateful Firewall. |
| Total Packets Injected | Total number of packets injected by Stateful Firewall. |
| Total Bytes Injected | Total number of bytes injected by Stateful Firewall. |
| Uplink Packets Dropped | Total number of packets in uplink flow dropped by Stateful Firewall. |
| Uplink Bytes Dropped | Total number of bytes in uplink flow dropped by Stateful Firewall. |
| Downlink Packets Dropped | Total number of packets in downlink flow dropped by Stateful Firewall. |
| Downlink Bytes Dropped | Total number of bytes in downlink flow dropped by Stateful Firewall. |
| Total Malformed Packets | Total number of malformed packets detected by Stateful Firewall. |

| Field | Description |
|-----------------------------------|--|
| Total DOS Attacks | Total number of Denial-of-Service attacks detected by Stateful Firewall. |
| Total Flows Processed by Firewall | Total number of flows processed by Stateful Firewall. |

show active-charging firewall track-list attacking-servers

Table 54: show active-charging firewall track-list attacking-servers Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Attacking Servers: | |
| Server IP address | IP address of server being tracked for involvement in Denial-of-Service (DOS) attacks. |
| Time of last attack | Date and time of last attack from the server. |
| Time of first attack | Date and time of first attack from the server. |
| Total attacks | Total number of attacks from the server. |
| Last Attack Type | The last DOS attack type from the server. |
| Total attacking servers found | Total number of attacking servers found. |

show active-charging fw-and-nat policy name



Note This show command and counters are available in the releases: 8.1, UMTS releases supporting policy-based Firewall and NAT; 9.0 and later.

Table 55: show active-charging fw-and-nat policy name Command Output Descriptions

| Field | Description |
|----------------------|---|
| Service Name | Name of the Active Charging Service. |
| Firewall Policy Name | Name of the Firewall-and-NAT Policy. |
| Firewall Status IPv4 | Indicates whether IPv4 Stateful Firewall is enabled or disabled in the Firewall-and-NAT policy. |
| Firewall Status IPv6 | Indicates whether IPv6 Stateful Firewall is enabled or disabled in the Firewall-and-NAT policy. |

| Field | Description |
|---|---|
| NAT Status NAT44 | Indicates whether NAT44 is enabled or disabled in the Firewall-and-NAT policy. |
| NAT Status NAT64 | Indicates whether NAT64 is enabled or disabled in the Firewall-and-NAT policy. |
| NAT Status | Indicates whether NAT is enabled or disabled in the Firewall-and-NAT policy. |
| Flow recovery status: | |
| Basic NAT flows | Indicates whether flow recovery is enabled or disabled for basic NAT flows in the Firewall-and-NAT policy. |
| Recoverable basic NAT flows | Displays the total number of recoverable basic NAT flows in the Firewall-and-NAT policy. |
| SIP-ALG | Indicates whether flow recovery is enabled or disabled for SIP ALG in the Firewall-and-NAT policy. |
| ICSR Flow-recovery Status: | |
| Non-ALG | Indicates whether ICSR flow-recovery is enabled or disabled for non-ALGs in the Firewall-and-NAT policy. Important This statistic is deprecated in 14.0 and later releases. |
| Basic NAT | Indicates whether ICSR flow-recovery is enabled or disabled for basic NAT in the Firewall-and-NAT policy. |
| SIP-ALG | Indicates whether ICSR flow-recovery is enabled or disabled for SIP ALG in the Firewall-and-NAT policy. |
| H323-ALG | Indicates whether ICSR flow-recovery is enabled or disabled for H323 ALG in the Firewall-and-NAT policy. |
| Firewall and NAT Action Priorities | |
| Ruledef Name | Name of the access ruledef. |
| Type | Indicates the ruledef type. <ul style="list-style-type: none"> • FD: Firewall Dynamic Ruledef — Predefined and disabled rules that can be enabled/disabled by the policy server. • FS: Firewall Static Ruledef — Predefined and enabled rules that cannot be modified by the policy server. • FSDP: Firewall Static & Dynamic Ruledef —Predefined and enabled rules that can be enabled/disabled by the policy server. |
| Priority | Priority of the access ruledef in the Firewall-and-NAT policy. |

| Field | Description |
|------------------------------------|--|
| Charging-action/ Fw-and-nat-action | The charging action (C) or the fw-and-nat action (F) configured with the access ruledef. |
| Port-trigger aux-ports:direction | The auxiliary ports open for traffic, and the direction from which the auxiliary connection is initiated. |
| NAT-Realm | Name of the NAT realm. |
| Firewall Configuration | |
| Dos-Protection | |
| Source-Route | Indicates status of protection against IP Source Route IP Option attacks. |
| Win-Nuke | Indicates status of protection against Win Nuke attacks. |
| Mime-Flood | Indicates status of protection against MIME Flood attacks. |
| FTP-Bounce | Indicates status of protection against FTP Bounce attacks. |
| IP-Unaligned-Timestamp | Indicates status of protection against IP Unaligned Timestamp attacks. |
| TCP-Window-Containment | Indicates status of protection against TCP Window Containment. |
| Teardrop | Indicates status of protection against Teardrop attacks. |
| UDP Flooding | Indicates status of protection against UDP Flooding attacks. |
| ICMP Flooding | Indicates status of protection against ICMP Flooding attacks. |
| SYN Flooding | Indicates status of protection against SYN Flooding attacks. |
| Port Scan | Indicates status of protection against Port Scan attacks. |
| IPv6 Extension Headers Limit | Indicates status of protection against maximum limit of IPv6 extension headers in an IPv6 packet. An IPv6 packet can contain zero or more extension headers. |
| IPv6 Hop By Hop Options | Indicates status of protection against IPv6 packets containing hop-by-hop extension header options. |
| Hop By Hop Router Alert Option | Indicates status of protection against IPv6 packets containing router alert hop-by-hop option. |
| Hop By Hop Jumbo Payload Option | Indicates status of protection against IPv6 packets containing jumbo payload hop-by-hop option. |
| Invalid Hop By Hop Options | Indicates status of protection against IPv6 packets containing invalid hop-by-hop options. |
| Unknown Hop By Hop Options | Indicates status of protection against IPv6 packets containing unknown hop-by-hop options. |

| Field | Description |
|--------------------------------|--|
| IPv6 Destination Options | Indicates status of protection against IPv6 packets containing IPv6 destination options header. |
| Invalid Destination Options | Indicates status of protection against IPv6 packets containing invalid destination options. |
| Unknown Destination Options | Indicates status of protection against IPv6 packets containing unknown destination options. |
| IPv6 Nested Fragmentation | Indicates status of protection against IPv6 packets containing IPv6 nested fragmentation. |
| UDP IP Sweep | Indicates status of protection against UDP IP sweep attacks. |
| ICMP IP Sweep | Indicates status of protection against ICMP IP sweep attacks. |
| TCP-SYN IP Sweep | Indicates status of protection against TCP-SYN IP sweep attacks. |
| Max-Packet-Size | |
| ICMP | For ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall. |
| Non-ICMP | For non-ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall. |
| Flooding | |
| ICMP limit | The maximum number of ICMP packets allowed during a sampling interval. |
| UDP limit | The maximum number of UDP packets allowed during a sampling interval. |
| TCP-SYN limit | The maximum number of TCP-SYN packets allowed during a sampling interval. |
| Sampling Interval | The flooding sampling interval, in seconds. |
| TCP-SYN Flood Intercept | |
| Mode | The TCP SYN flood intercept mode. <ul style="list-style-type: none"> • none • intercept • watch |
| Watch-timeout | The TCP intercept watch timeout, in seconds. |
| Mime-Flood Params | |
| HTTP Header-Limit | The maximum number of headers allowed in an HTTP packet. |

| Field | Description |
|--|--|
| HTTP Max-Header-Field-Size | The maximum header field size allowed in an HTTP header, in bytes. |
| No Firewall Ruledef Match Action | |
| Uplink Action | Action configured for uplink packets with no access ruledef matches. |
| Uplink Charging-Action | Charging action configured for uplink packets with no access ruledef matches. |
| Uplink NAT-Realm | The NAT-realm to be used if none of the firewall ruledefs are matched for the uplink traffic. |
| Uplink Fw-and-nat-action | The Fw-and-nat action to be used if none of the firewall ruledefs are matched for the uplink traffic. |
| Downlink Action | Action configured for downlink packets with no access ruledef matches. |
| Downlink Charging-Action | Charging action configured for downlink packets with no access ruledef matches. |
| Downlink NAT-Realm | The NAT-realm to be used if none of the firewall ruledefs are matched for the downlink traffic. |
| Downlink Fw-and-nat-action | The Fw-and-nat action to be used if none of the firewall ruledefs are matched for the downlink traffic. |
| TCP RST Message Threshold | Indicates whether a threshold limit is set on the number of TCP reset messages sent by the subscriber for a particular data flow. |
| TCP RST Message Threshold Value | The threshold value set for the number of TCP reset messages sent by the subscriber for a particular data flow. Range: 1 to 100 |
| ICMP Dest-Unreachable Threshold | Indicates whether a threshold limit is set on the number of ICMP error messages sent by the subscriber for a particular data flow. |
| ICMP Dest-Unreachable Threshold Value | The threshold value set for the number of ICMP error messages sent by the subscriber for a particular data flow. |
| Action upon receiving TCP SYN packet with ECN/CWR Flag set | Indicates the action to be taken on receiving a TCP SYN packet with ECN/CWR Flag set. |
| Action upon receiving a malformed packet | Indicates the action to be taken on receiving a malformed packet. |
| Action upon IP Reassembly Failure | Indicates the action to be taken on IP reassembly failure. |
| Action upon receiving an IP packet with invalid Options | Indicates the action to be taken on receiving an IP packet with invalid options. |

| Field | Description |
|--|---|
| Action upon receiving a TCP packet with invalid Options | Indicates the action to be taken on receiving a TCP packet with invalid options. |
| Action upon receiving an ICMP packet with invalid Checksum | Indicates the action to be taken on receiving an ICMP packet with invalid checksum. |
| Action upon receiving a TCP packet with invalid Checksum | Indicates the action to be taken on receiving a TCP packet with invalid checksum. |
| Action upon receiving a UDP packet with invalid Checksum | Indicates the action to be taken on receiving a UDP packet with invalid checksum. |
| Action upon receiving an ICMP echo packet with id zero | Indicates the action to be taken on receiving an ICMP echo packet with id zero. |
| TCP Stateful Checks | Indicates whether stateful checks for TCP is enabled or disabled. |
| First Packet Non-SYN Action | Indicates the action to be taken on flows with first packet Non-SYN. |
| ICMP Stateful Checks | Indicates whether Stateful checks for ICMP is enabled or disabled. |
| TCP Partial Connection Timeout | Displays the time period for TCP partial connection, in seconds. |
| NAT Configuration | |
| NBR Format | Displays the NAT Binding Record format. |
| Private IP NPU Flow Timeout | The time period for private IP NPU Flow, in seconds. |
| Suppress sending NAT bind update to AAA | Indicates if the NAT bind update sent to AAA is suppressed or not. |
| Default NAT-Realm | The default NAT-realm to be used if no NAT-realm is found as part of firewall ruledefs. |
| Default Fw-and-nat-action | The Fw-and-nat action to be used when the default NAT-realm is used. |

show active-charging flow-kpi all

Table 56: show active-charging flow-kpi all Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Rule Name | The name of rules eligible for flow checkpointing. |
| Active Flows | Total number of active flows of the rule. |
| SR Flow Checkpoint Sent | Total number of SR flow checkpoint sent for the rule. |

| Field | Description |
|------------------------------------|---|
| SR Flow Checkpoint Received | Total number of SR flow checkpoint received for the rule. |
| GR Flow Checkpoint Sent | Total number of GR flow checkpoint sent for the rule. |
| GR Flow Checkpoint Received | Total number of GR flow checkpoint received for the rule. |
| SR Flow Checkpoint Delete Sent | Total number of SR delete flow checkpoint sent for the rule. |
| SR Flow Checkpoint Delete Received | Total number of SR delete flow checkpoint received for the rule. |
| GR Flow Checkpoint Delete Sent | Total number of GR delete flow checkpoint sent for the rule. |
| GR Flow Checkpoint Delete Received | Total number of GR delete flow checkpoint received for the rule. |
| Flows of lifetime bucket1 | Total number of flows of lifetime_bucket1. Lifetime value of bucket1 is configurable. |
| Flows of lifetime bucket2 | Total number of flows of lifetime_bucket2. Lifetime value of bucket2 is configurable. |
| Flows of lifetime bucket3 | Total number of flows of lifetime_bucket3. Lifetime value of bucket3 is configurable. |

show active-charging flows all

Table 57: show active-charging flows all Command Output Descriptions

| Field | Description |
|------------|--|
| Flow-ID | Identifier for Flows. |
| Session-ID | Identifier for Active Charging session with P2P. |
| Flow-num | Identifies the flow number. |

| Field | Description |
|---------------------------|---|
| Application Protocol (VV) | <p>The protocol used for application.</p> <p>Supported application protocols are:</p> <ul style="list-style-type: none"> • HT- HTTP • HS - HTTPS • SM - SMTP • P3 - POP3 • WT - WTP • WS - WSP • DN - DNS • RT - RTP • EM - EMAIL • MM - MMS • FT - FTP • SI - SIP • WW - WWW • RS - RTSP • IM - IMAP • P2 - P2P • RC - RTCP • TF - TFTP • WC - WSP Connection Oriented • WX - WSP Connection-less • XX - Unknown • H3 - H323 • PP - PPTP • RA - RADIUS • M6 - MIPV6 • XX - Unknown |

| Field | Description |
|------------------------|--|
| Transport Protocol (v) | The protocol used for data transport. Supported data transport protocols are: <ul style="list-style-type: none"> • T - TCP • U - UDP • I - ICMP and ICMPv6 • G - GREv1 • X - Unknown |
| Tethered Flow | The value will display Y for a tethered flow and N for a non-tethered flow. |
| Recovered Flow | The value will display Y for a recovered flow and N for a non-recovered flow. The flag will be displayed if flow recovery license is present. |
| Bytes-Up | Total bytes uplinked. |
| Bytes-Down | Total bytes downlinked. |
| Pkts-Up | Total packets uplinked. |
| Pkts-Down | Total packets downlinked. |
| TCP Acceleration | Identifies the TCP accelerated flow. |

show active-charging flows full

For a TCP flow.

Table 58: show active-charging flows full Command Output Descriptions

| Field | Description |
|------------------|---|
| Flow-ID | Identifier for flows. |
| Session-ID | Identifier for ACS session. |
| Uplink Packets | Total number of packets uplinked. |
| Uplink Bytes | Total number of bytes uplinked. |
| Downlink Packets | Total number of packets downlinked. |
| Downlink Bytes | Total number of bytes downlinked. |
| FP Packets | Number of data packets processed in fastpath for this flow. |

| Field | Description |
|---------------------------------------|--|
| MS IP | The MS IP address. |
| MS NAT IP | The MS NAT IP address. |
| Server IP | The server IP address. |
| Transport Protocol | The transport protocol: TCP, UDP, ICMP |
| Application Protocol | The application protocol. |
| Video Pacing | Indicates whether video pacing is enabled or disabled. |
| Video Encoded Bit Rate | The currently enforced bit rate for video pacing. |
| Video Pacing Initial Burst Size | The initial burst size allowed, in bytes, during video pacing. |
| Video Pacing Normal Burst Size | The normal burst size allowed, in bytes, during video pacing. |
| Video Pacing Dropped Bytes | The number of data bytes dropped during video pacing. |
| Video Payload Bytes Sent towards User | The number of data bytes sent to the UE during video pacing. |
| Video Pacing Duration | The duration, in seconds, of the video being paced. |
| TCP MS Port | The TCP MS port number. |
| TCP MS NAT Port | The TCP MS NAT port number. This field is not displayed for one-to-one NAT. |
| TCP Server Port | The TCP server port number. |
| TCP State | Indicates the TCP state. |
| TCP Prev State | Indicates the previous TCP state. |
| MS Window Size | The mobile window size. |
| Server Window Size | The server window size. |
| MS Retries | Total number of mobile subscriber retries. |
| Server Retries | Total number of server retries. |
| ITC Action Applied | Indicates the ITC action applied. |
| Throttle-Suppress Countdown | Displays the configured timeout (elapsed time) when flow is throttle-suppressed. |
| Throttle-Suppress | Displays "n/a" when throttle-suppress is inactive. |
| Socket Migration Details: | TCP Proxy Socket Migration related information. |
| State | Indicates Socket Migration state of the flow. For example, SOCK_MIG_DONE. |

| Field | Description |
|--------------------------------|---|
| Highest ACK Frm Server | Highest acknowledgement number from the server. |
| Highest Seq Frm Server | Highest sequence number from the server. |
| Highest ACK Frm MS | Highest acknowledgement number from the MS. |
| Highest Seq Frm MS | Highest sequence number from the MS. |
| Seq Frm MS at Mig | Sequence number from MS at migration. |
| ACK Frm MS at Mig | Acknowledgement number from MS at migration. |
| Seq Frm Server at Mig | Sequence number from server at migration. |
| ACK Frm Server at Mig | Acknowledgement number from server at migration. |
| Data To Be Delivered To MS | Data to be delivered to the MS. |
| Data To Be Delivered To Server | Data to be delivered to the server. |
| Highest Seq Frm MS | Highest sequence number from the MS. |
| Timestamps Enabled | Indicates if timestamps option is enabled. |
| SACK Enabled | Indicates if selective acknowledgement is enabled. |
| Wscale From MS | Window scale value from MS. |
| Wscale From Server | Window scale value from server. |
| Buffering Statistics: | |
| Buffered Uplink Packets | Total buffered uplink packets. |
| Buffered Uplink Bytes | Total buffered uplink bytes. |
| Buffered Downlink Packets | Total buffered downlink packets. |
| Buffered Downlink Bytes | Total buffered downlink bytes. |
| Uplink Packets in Buffer | Total uplink packets in the buffer. |
| Uplink Bytes in Buffer | Total uplink bytes in the buffer. |
| Downlink Packets in Buffer | Total downlink packets in the buffer. |
| Downlink Bytes in Buffer | Total downlink bytes in the buffer. |
| Buff Over-limit Uplink Pkts | Total number of uplink packets that are over the limit in the buffer. |
| Buff Over-limit Uplink Bytes | Total number of uplink bytes that are over the limit in the buffer. |
| Buff Over-limit Downlink Pkts | Total number of downlink packets that are over the limit in the buffer. |

| Field | Description |
|---|---|
| Buff Over-limit Downlink Bytes | Total number of downlink bytes that are over the limit in the buffer. |
| CAE-Readdressing: | |
| Requests CAE-Readdressed | Total number of request readdressing done. |
| Responses CAE-Readdressed | Total number of response readdressing done. |
| Requests having xheader inserted | Total number of HTTP requests with x-headers inserted. |
| Total connect failed to CAE | Total number of connections failed to the CAE. |
| Total CAE-Readdressed Uplink Bytes | Total number of uplink bytes readdressed. |
| Total CAE-Readdressed Uplink Packets | Total number of uplink packets readdressed. |
| Total CAE-Readdressed Downlink Bytes | Total number of downlink bytes readdressed. |
| Total CAE-Readdressed Downlink Packets | Total number of downlink packets readdressed. |
| Flows connected to CAE | Total number of flows connected to the CAE. |
| Proxy Disable Success | Total number of flows with proxy disabled. |
| Proxy Disable Failed | Total number of times the proxy disable function failed. |
| Link Monitoring | |
| Average Throughput | The average TCP throughput of downlink TCP traffic towards the mobile device, in kbps. |
| Average RTT | The average TCP RTT (Round Trip Time) of downlink TCP traffic towards the mobile device, in milliseconds. |
| Tethering detection performed | Indicates whether tethering detection was performed. |
| Tethering detected | Indicates whether tethering was detected. |
| Total ACS flows matching specified criteria | The total ACS flows that match the specified criteria. |

show active-charging flows full type p2p

Table 59: show active-charging flows full type p2p Command Output Descriptions

| Field | Description |
|------------|--|
| Flow-ID | Identifier for flows. |
| Session-ID | Identifier for Active Charging session with P2P. |

| Field | Description |
|----------------------|--|
| Uplink Packets | Total packets uplinked. |
| Downlink Packets | Total packets downlinked. |
| Uplink Bytes | Total bytes uplinked. |
| Downlink Bytes | Total bytes downlinked. |
| Transport Protocol | The protocol used for data transport. |
| Application Protocol | The type of application protocol used for this session. |
| UDP Client Port | UDP port on client communication. |
| UDP Server Port | UDP port on server for communication. |
| ITC Action Applied | Status of Intelligent Traffic Control (ITC) on this session traffic. |

show active-charging flows type cdp

Table 60: show active-charging flows type cdp Command Output Descriptions

| Field | Description |
|------------|--|
| Session-ID | Identifier for Active Charging session with CDP. |
| Flow-ID | Identifier for Flows. |
| Flow-num | Identifies the flow number. |

| Field | Description |
|---------------------------|---|
| Application Protocol (VV) | <p>The protocol used for application.</p> <p>Supported application protocols are:</p> <ul style="list-style-type: none"> • HT- HTTP • HS - HTTPS • SM - SMTP • P3 - POP3 • WT - WTP • WS - WSP • DN - DNS • RT - RTP • EM - EMAIL • MM - MMS • FT - FTP • SI - SIP • WW - WWW • RS - RTSP • IM - IMAP • P2 - P2P • RC - RTCP • TF - TFTP • WC - WSP Connection Oriented • WX - WSP Connection-less • H3 - H323 • PP - PPTP • RA - RADIUS • XX - Unknown |

| Field | Description |
|---|--|
| Transport Protocol (v) | The protocol used for data transport. Supported data transport protocols are: <ul style="list-style-type: none"> • T - TCP • U - UDP • I - ICMP and ICMPv6 • G - GREv1 • X - Unknown |
| Bytes-Up | Total bytes uplinked. |
| Bytes-Down | Total bytes downlinked. |
| Packets-Up | Total packets uplinked. |
| Packets-Down | Total packets downlinked. |
| Total ACS flows matching specified criteria | The total number of ACS flows matching the specified criteria. |

show active-charging flows type p2p

Table 61: show active-charging flows type p2p Command Output Descriptions

| Field | Description |
|------------|--|
| Flow-ID | Identifier for Flows. |
| Session-ID | Identifier for Active Charging session with P2P. |
| Flow-num | Identifies the flow number. |

| Field | Description |
|---------------------------|--|
| Application Protocol (VV) | <p>The protocol used for application.</p> <p>Supported application protocols are:</p> <ul style="list-style-type: none"> • HT- HTTP • HS - HTTPS • SM - SMTP • P3 - POP3 • WT - WTP • WS - WSP • DN - DNS • RT - RTP • EM - EMAIL • MM - MMS • FT - FTP • SI - SIP • WW - WWW • RS - RTSP • IM - IMAP • P2 - P2P • RC - RTCP • TF - TFTP • WC - WSP Connection Oriented • WX - WSP Connection-less • XX - Unknown • H3 - H323 • PP - PPTP • M6 - MIPv6 • XX - Unknown |

| Field | Description |
|------------------------|--|
| Transport Protocol (v) | The protocol used for data transport. Supported data transport protocols are: <ul style="list-style-type: none"> • T - TCP • U - UDP • I - ICMP and ICMPv6 • G - GREv1 • X - Unknown |
| Bytes-Up | Total bytes uplinked. |
| Bytes-Down | Total bytes downlinked. |
| Packets-Up | Total packets uplinked. |
| Packets-Down | Total packets downlinked. |
| Uplink Bytes | Total bytes uplinked. |
| Downlink Bytes | Total bytes downlinked. |
| Transport Protocol | The protocol used for data transport. |
| Application Protocol | The type of application protocol used for this session. |
| UDP Client Port | UDP port on client communication. |
| UDP Server Port | UDP port on server for communication. |
| ITC Action Applied | Status of intelligent traffic control (ITC) on this session traffic. |

show active-charging flow-mappings all

Table 62: show active-charging flow-mappings all Command Output Descriptions

| Field | Description |
|--------------------|--|
| Call-ID | The call identification number to which the data flow belongs. |
| MS IP | The IP address of the mobile subscriber. |
| MS NAT IP | The NAT IP address allocated to the mobile subscriber. |
| MS Server IP | The server IP address of the mobile subscriber. |
| Transport Protocol | The transport protocol of the flow: TCP or UDP |

| Field | Description |
|----------------------|---|
| TCP MS Port | The TCP port number of the mobile subscriber. |
| TCP MS NAT Port | The TCP NAT port number allocated to the mobile subscriber. This field is applicable for many-to-one NAT. |
| TCP Server Port | The TCP server port number for this flow (destination server port). |
| UDP MS Port | The UDP port number of the mobile subscriber. |
| UDP MS NAT Port | The UDP NAT port number allocated to the mobile subscriber. This field is applicable for many-to-one NAT. |
| UDP Server Port | The UDP server port number for this flow (destination server port). |
| Flow-Mapping timeout | The timeout after which the flow-mappings will be deleted. |
| Mapping Expiry | The time in seconds left for the flow-mapping timeout to happen. This value decrements starting from a maximum of "Flow-Mapping timeout". Upon this value reaching zero, the flow mapping will be deleted. |

show active-charging group-of-ruledefs name

Table 63: show active-charging group-of-ruledefs name Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Service Name | The service in which the specified group-of-ruledefs is configured. |
| Group-of-Ruledefs Name | Name of the group-of-ruledefs. |
| Ruledef Name | Names of the ruledefs added to the group-of-ruledefs. |
| Priority | The priorities configured for each of the ruledefs in the group-of-ruledefs. |
| Total group(s)-of-ruledefs found | The total number of group(s)-of-ruledefs matching the specified criteria. |

show active-charging nat statistics

Table 64: show active-charging nat statistics Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| NAT Realm Utilization: | |
| Realm Name | Name of the NAT realm. |
| Context | Context in which the NAT realm is configured. |
| Current IP Address-In-Use | The number of IP addresses from the NAT realm currently in use. |
| Total IP Address | The total number of IP addresses for the NAT realm. |
| Current Calls Using-REALM | The number of current calls using the NAT realm. |
| Current Port-Chunks Available | The number of port chunks currently available. |
| Current Port-Chunks-In-Use | The number of port chunks currently in use. |
| Total Port-Chunks | The total number of port chunks for the NAT realm. |
| Port-Chunk Size | The size of the port chunks. |
| Statistics: | |
| Total AAA alloc msgs sent | The total number of AAA allocation messages sent. |
| Total AAA dealloc msgs sent | The total number of AAA deallocation messages sent. |
| Total flows denied IP | The total number of subscriber flows that were denied NAT IP address. |
| Total flows denied port | The total number of subscriber flows that were denied a port. |
| NAT44 flows denied IP | The total number of NAT44 flows that were denied NAT IP address. |
| NAT44 flows denied port | The total number of NAT44 flows that were denied a port. |
| NAT64 flows denied IP | The total number of NAT64 flows that were denied NAT IP address. |
| NAT64 flows denied port | The total number of NAT64 flows that were denied a port. |
| Total flows denied memory | The total number of flows that were denied memory. |
| NAT44 flows denied memory | The total number of NAT44 flows that were denied memory. |
| NAT64 flows denied memory | The total number of NAT64 flows that were denied memory. |
| Total bytes Transferred | The total number of bytes transferred. |

| Field | Description |
|--|---|
| Total flows processed | The total number of flows processed. |
| NAT44 bytes Transferred | The total number of NAT44 bytes transferred. |
| NAT44 flows processed | The total number of NAT44 flows processed. |
| NAT64 bytes Transferred | The total number of NAT64 bytes transferred. |
| NAT64 flows processed | The total number of NAT64 flows processed. |
| Average TCP port usage | The average TCP port usage in the allocated TCP ports, i.e out of allocated TCP ports how many got used. |
| Average UDP port usage | The average UDP port usage in the allocated UDP ports, i.e out of allocated UDP ports how many got used. |
| Average Others port usage | The average Others (ICMP or GRE) port usage in the allocated others ports, i.e out of allocated 'Others' ports how many got used. |
| Total IP Alloc Reqs | The total number of IP allocation requests. |
| Total IP Dealloc Reqs | The total number of IP deallocation requests. |
| Total Port-Chunk Alloc Reqs | The total number of port-chunk allocation requests. |
| Total Port-Chunk Dealloc Reqs | The total number of port-chunk deallocation requests. |
| Total IP Alloc failure | The total number of IP allocation failures. |
| Total Port-Chunk Alloc failure | The total number of port-chunk allocation failures. |
| Total IP Alloc Bounce | The total number of IP allocations that bounced. |
| Total IP Audit Req | The total number of IP audit requests. |
| Total IP Audit Failure | The total number of IP audit failures. |
| Total IP Alloc failure while recovery is in progress | The total number of IP allocation failures while recovery is in progress. |
| Total Port-Chunk Alloc failure while recovery is in progress | The total number of port-chunk allocation failures while recovery is in progress. |
| Port-Chunks distribution | |
| Max no.of chunks used | The maximum number of port chunks used. |
| Total no.of subscribers | Total number of subscribers using maximum number of port chunks. |
| Current no.of subscribers | Total number of current subscribers using maximum number of port chunks. |
| Total Realms | The total number of NAT realms found. |

| Field | Description |
|---|--|
| Ports distribution | |
| Max no. of ports used | The maximum number of ports used. |
| Total no. of Subscribers | Total number of subscribers using maximum number of ports. |
| <p>Important The maximum number of ports used are divided into buckets of size 8, with the following two exceptions:</p> <p>The first bucket [0-8] includes not-on-demand calls, that is, subscribers who are allocated a port chunk without using any ports at all will fall into the first bucket.</p> <p>The last bucket [≥ 65] includes all subscribers using greater than 64 ports.</p> | |

show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num>

Table 65: show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num> Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| Server IP address | Displays the IP address of the server(s). |
| Total Number of Unsolicited Pkts | Displays the number of unsolicited downlink packets received. |
| Total Number of ICMP-HU Sent | Displays the number of ICMP-HU packets sent. |

show active-charging p2p-dynamic-rules verbose

This command is not supported in this release.

show active-charging pcp-service all



Important This command is customer specific. For more information, contact your Cisco account representative.

Table 66: show active-charging pcp-service all Command Output Descriptions

| Field | Description |
|------------------------------|--------------------------|
| Active Charging Service Name | Name of the ACS service. |
| PCP Service Name | Name of the PCP service. |

| Field | Description |
|----------------------------|--|
| PCP Supported Version | The supported version number of the PCP service. |
| PCP IPv4 Address/Port | The IPv4 address or port number of the PCP service. |
| Policy Control Options | |
| Request Opcodes | |
| Map Opcode | Indicates whether Request Map opcode is enabled or not. |
| Map Options | The Request Map opcode options are: <ul style="list-style-type: none"> • filter • prefer-failure |
| Peer Opcode | Indicates whether Request Peer opcode is enabled or not. |
| Announce Opcode | Indicates whether Request Announce opcode is enabled or not. |
| Response Opcodes | |
| Map Life-Time | |
| Success | Indicates the lifetime for successful Map responses. |
| Long Error | Indicates the life-time for long error cases. |
| Short Error | Indicates the life-time for short error cases. |
| Peer Life-Time | |
| Success | Indicates the lifetime for successful Peer responses. |
| Long Error | Indicates the life-time for long error cases. |
| Short Error | Indicates the life-time for short error cases. |
| Total PCP Service(s) found | Total number of PCP services matching the specified criteria. |

show active-charging pcp-service name



Important This command is customer specific. For more information, contact your Cisco account representative.

Table 67: show active-charging pcp-service name Command Output Descriptions

| Field | Description |
|------------------------------|--------------------------|
| Active Charging Service Name | Name of the ACS service. |

| Field | Description |
|----------------------------|--|
| PCP Service Name | Name of the PCP service. |
| PCP Supported Version | The supported version number of the PCP service. |
| PCP IPv4 Address/Port | The IPv4 address or port number of the PCP service. |
| Policy Control Options | |
| Request Opcodes | |
| Map Opcode | Indicates whether Request Map opcode is enabled or not. |
| Map Options | The Request Map opcode options are: <ul style="list-style-type: none"> • filter • prefer-failure |
| Peer Opcode | Indicates whether Request Peer opcode is enabled or not. |
| Announce Opcode | Indicates whether Request Announce opcode is enabled or not. |
| Response Opcodes | |
| Map Life-Time | |
| Success | Indicates the lifetime for successful Map responses. |
| Long Error | Indicates the life-time for long error cases. |
| Short Error | Indicates the life-time for short error cases. |
| Peer Life-Time | |
| Success | Indicates the lifetime for successful Peer responses. |
| Long Error | Indicates the life-time for long error cases. |
| Short Error | Indicates the life-time for short error cases. |
| Total PCP Service(s) found | Total number of PCP services matching the specified criteria. |

show active-charging pcp-service statistics



Important This command is customer specific. For more information, contact your Cisco account representative.

Table 68: show active-charging pcp-service statistics Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Active Charging Service Name | Name of the ACS service. |
| PCP Service Name | Name of the PCP service. |
| Total PCP Subscribers | Total number of PCP enabled subscribers. |
| Current PCP Subscribers | Current number of PCP enabled subscribers. |
| IPv4: | |
| Total PCP Requests | Total number of request packets received for the PCP service. |
| Total PCP Responses | Total number of PCP Responses sent by the PCP service. |
| Total Unknown Requests | Total number of PCP Responses sent by the PCP service for unknown PCP Requests. |
| Total Invalid Requests | Total number of PCP Responses sent by the PCP service for unknown PCP Requests. |
| Map: | |
| Total Requests | Total number of PCP MAP requests received for the PCP service. |
| Total Responses | Total number of PCP MAP Responses sent by the PCP service. |
| Valid Requests | Total number of valid PCP MAP requests received for the PCP service. |
| Invalid Requests | Total number of invalid PCP MAP requests received for the PCP service. |
| Success Responses | Total number of successful PCP MAP responses sent by the PCP service. |
| Error Responses | Total number of error PCP MAP responses sent by the PCP service. |
| Peer: | |
| Total Requests | Total number of PCP PEER requests received for the PCP service. |
| Total Responses | Total number of PCP PEER Responses sent by the PCP service. |
| Valid Requests | Total number of valid PCP PEER requests received for the PCP service. |
| Invalid Requests | Total number of invalid PCP PEER requests received for the PCP service. |
| Success Responses | Total number of successful PCP PEER responses sent by the PCP service. |

| Field | Description |
|------------------------------|---|
| Error Responses | Total number of error PCP PEER responses sent by the PCP service. |
| Announce: | |
| Total Requests | Total number of PCP ANNOUNCE requests received for the PCP service. |
| Total Responses | Total number of PCP ANNOUNCE Responses sent by the PCP service. |
| Valid Requests | Total number of valid PCP ANNOUNCE requests received for the PCP service. |
| Invalid Requests | Total number of invalid PCP ANNOUNCE requests received for the PCP service. |
| Success Responses | Total number of successful PCP ANNOUNCE responses sent by the PCP service. |
| Error Responses | Total number of error PCP ANNOUNCE responses sent by the PCP service. |
| Total PCP Service(s) matched | Total number of PCP services matching the specified criteria. |

show active-charging radio-congestion policy all

Table 69: show active-charging radio-congestion policy all Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Service Name | Name of the Active Charging Service. |
| Radio Congestion Policy | Name of the Radio Congestion policy. |
| Sampling Interval | Indicates the sampling interval, in seconds. |
| Reporting Interval | |
| Num Of Samples Required | Indicates the number of samples required. |
| Min Samples Required Per Flow | Indicates the minimum number of samples required per flow. |
| Rtt Samples | Indicated the number of RTT (Round Trip Time) samples for base RTT. |
| Data Loss | |
| Threshold | Indicates the threshold value for data loss. |
| Weightage | Indicates the weightage value for data loss. |

| Field | Description |
|-------------------------|---|
| Rtt Variance | |
| Threshold | Indicates the threshold value for RTT variance. |
| Weightage | Indicates the weightage value for RTT variance. |
| Congestion-level | |
| Low | Indicates the low congestion level value. |
| Medium | Indicates the medium congestion level value. |
| High | Indicates the high congestion level value. |
| Extreme | Indicates the extreme congestion level value. |
| correlation-method | Indicates the configured correlation method used to correlate multiple flows of a subscriber. |

show active-charging radio-congestion policy statistics

Table 70: show active-charging radio-congestion policy statistics Command Output Descriptions

| Field | Description |
|---|---|
| Total Bytes Analyzed | Total number of bytes that were successfully analyzed. |
| Total Bytes Retransmitted | Total number of bytes that were successfully retransmitted. |
| Total RTT Samples Analyzed | Total number of RTT samples that were analyzed. |
| Total Reports Generated | Total number of reports generated to CAE. |
| Total Reports Generated with Congestion Level no | Total number of generated reports with no congestion. |
| Total Reports Generated with Congestion Level low | Total number of generated reports with low congestion. |
| Total Reports Generated with Congestion Level medium | Total number of generated reports with medium congestion. |
| Total Reports Generated with Congestion Level high | Total number of generated reports with high congestion. |
| Total Reports Generated with Congestion Level extreme | Total number of generated reports with extreme congestion. |
| Total Reports Send with Congestion Level no | Total number of generated sent with no congestion. |
| Total Reports Send with Congestion Level low | Total number of generated sent with low congestion. |
| Total Reports Send with Congestion Level medium | Total number of generated sent with medium congestion. |
| Total Reports Send with Congestion Level high | Total number of generated sent with high congestion. |
| Total Reports Send with Congestion Level extreme | Total number of generated sent with extreme congestion. |

| Field | Description |
|---|--|
| Total Flows Analyzed | Total number of flows that were successfully analyzed. |
| Total Flows Eligible for Correlation | Total number of flows eligible for correlation. |
| Total Flows with Congestion Level no | Total number of flows with no congestion. |
| Total Flows with Congestion Level low | Total number of flows with low congestion. |
| Total Flows with Congestion Level medium | Total number of flows with medium congestion. |
| Total Flows with Congestion Level high | Total number of flows with high congestion. |
| Total Flows with Congestion Level extreme | Total number of flows with extreme congestion. |

show active-charging readdress-server-list statistics all



Important This command is license dependent. For more information please contact your Cisco account representative.

Table 71: show active-charging readdress-server-list statistics all Command Output Descriptions

| Field | Description |
|-----------------|--|
| ACSMGR Instance | Total instances of ACS Manager. |
| Server List | The list name of the server. |
| Server | The IP address of the DNS server. |
| Port | The TCP port number used by the DNS server. |
| Total Requests | Total number of readdress requests to the DNS server. |
| Failed Requests | Total number of failed readdress requests to the DNS server. |
| Status | The status of the DNS server (Active/ Inactive) |
| Average RTT | Average Round Trip Time (RTT) for the response of the readdress requests sent to the server. |

show active-charging rulebase name

Table 72: show active-charging rulebase name Command Output Descriptions

| Field | Description |
|--|--|
| Service Name | Name of the Active Charging Service. |
| Rule Base Name | Name of the rulebase. |
| Transactional-Rule-Matching | Specifies if transactional rule matching is enabled or disabled. |
| Charging Action Priorities | |
| Name | Name of the charging ruledef / group-of-ruledefs. |
| Type | The ruledef / group-of-ruledefs type. <ul style="list-style-type: none"> • RD: Dynamic ruledef • RS: Static ruledef • RSD: Static and dynamic ruledef • GD: Dynamic group-of-ruledefs • GS: Static group-of-ruledefs • GSD: Static and dynamic group-of-ruledefs |
| Priority | Priority of the ruledef / group-of-ruledefs in the rulebase. |
| Charging-action | The charging action configured with the ruledef / group-of-ruledefs. |
| Timedef | The time definition configured with the ruledef / group-of-ruledefs. |
| Description | Description of the charging ruledef / group-of-ruledefs configuration. |
| Post-processing Action Priorities | |
| Name | Name of the Post-processing ruledef. |
| Type | The Post-processing ruledef type. |
| Priority | Priority of the Post-processing ruledef in the rulebase. |
| Charging-action | The charging action configured. |
| Description | Description of the Post-processing ruledef configuration. |
| Routing Action Priorities | |
| Ruledef Name | Name of the routing action ruledef. |

| Field | Description |
|-----------------------------------|--|
| Priority | Priority of the routing action ruledef in the rulebase. |
| Analyzer | Name of the applicable analyzer to routing action ruledef. |
| Description | Description of the routing ruledef configuration. |
| Firewall Action Priorities | |
| Ruledef Name | Name of the Stateful Firewall ruledef. |
| Type | Indicates the Stateful Firewall ruledef type. <ul style="list-style-type: none"> • FD: Firewall Dynamic Ruledef—Predefined and disabled Stateful Firewall rules that can be enabled/disabled by the policy server. • FS: Firewall Static Ruledef—Predefined and enabled Stateful Firewall rules that cannot be modified by the policy server. • FSDP: Firewall Static & Dynamic Ruledef—Predefined and enabled Stateful Firewall rules that can be disabled/enabled by the policy server. |
| Priority | Priority of the Stateful Firewall ruledef in the rulebase. |
| Charging-action | The charging action configured. |
| Port-trigger aux-ports:direction | The auxiliary ports open for traffic, and the direction from which the auxiliary connection is initiated. |
| EGCDR Fields | |
| Tariff Time thresholds (min:hrs) | Threshold for tariff in minutes and hours. |
| Internal Threshold | Internal threshold to generate eG-CDRs in seconds. |
| Uplink Octets | Total number of octets uplinked. |
| Downlink Octets | Total number of octets downlinked. |
| Total Octets | Total number of octets uplinked and downlinked. |
| Time Based Metering | Status of time based metering. |
| Content Filtering Group | Status of Content Filtering Server Group support for offline content filtering server (ICAP) support. |
| Content Filtering Flow Any Error | Indicates whether Content Filtering packets are allowed/discarded in case of ACS error scenarios. This field is displayed only if either the Content Filtering mode or, ICAP server-group is configured. |
| Content Filtering Policy | The Content Filtering policy. |

| Field | Description |
|----------------------------------|---|
| Content Filtering Mode | Indicates the Content Filtering mode. <ul style="list-style-type: none"> • Static • Static-and-dynamic |
| URL-Blacklisting Action | Indicates action to be taken on URL Blacklisting match. |
| Tethering Detection | Indicates whether tethering detection is enabled or disabled. |
| OS-based Detection | Indicates if detection is enabled or disabled for IPv4 and IPv6 OS databases. |
| UA-based Detection | Indicates if UA based detection is enabled or disabled. |
| Tethering Detection (ip-ttl) | Indicates if IP-TTL based tethering detection is enabled or disabled. |
| DNS Based Detection | Indicates if DNS-based tethering detection is enabled or disabled. |
| Ip-ttl Values | Displays TTL values (space separated) configured for detecting tethered flows. |
| Max SYN detection in a flow | Displays the maximum number of SYN packets detected in a flow. |
| UDR Fields | |
| Tariff Time thresholds (min:hrs) | Threshold for tariff, in minutes and hours. |
| Interval Threshold | Interval threshold to generate UDRs, in seconds. |
| Uplink Octets | Total number of octets uplinked. |
| Downlink Octets | Total number of octets downlinked. |
| First Hit Content-Id Trigger | Indicates whether the First Hit Content ID trigger is enabled or disabled. This is a customer-specific field and is only available in 8.3 and later releases. |
| Tariff time trigger | Indicates whether the Tariff Time trigger is enabled or disabled. If enabled, this field displays the configured tariff time value. |
| NEMO Prefix Update Trigger | Indicates whether the NEMO Prefix Update trigger is enabled or disabled. Important This field will be available only when the NEMO license is configured. |
| Total Octets | Total number of octets uplinked and downlinked. |
| CCA Fields | Information regarding Credit Control Application for prepaid charging. |

| Field | Description |
|---------------------------------|--|
| RADIUS charging context | Name of the RADIUS charging context. |
| RADIUS Charging Group | Name of RADIUS charging server group. |
| RADIUS interim interval | Interim interval for RADIUS charging generation. |
| DIAMETER Requested Service Unit | Information regarding requested service unit for prepaid charging through Diameter. |
| Uplink Octets | Total number of octets uplinked in Diameter charging. |
| Downlink Octets | Total number of octets downlinked in Diameter charging. |
| Total Octets | Total number of octets uplinked and downlinked in Diameter charging. |
| Quota Retry Time | Duration set to retry for prepaid credit limit. |
| Quota Holding Time (QHT) | Status of quota holding time configuration. |
| Quota Time Duration Algorithms | Applicable algorithm for quota time duration. |
| Flow End Condition | Status of flow end condition configuration. |
| Handoff | Indicates whether EDRs are generated for handoffs. |
| Timeout | Indicates whether EDRs are generated for timeouts. |
| Normal-end-signaling | Indicates whether EDRs are generated for normal end signaling. |
| Session-end | Indicates whether EDRs are generated for session ends. |
| Hagr | Indicates whether EDRs are generated for HAGR. |
| Content-Filtering | Indicates whether EDRs are generated for Content Filtering. |
| edr-format | Name of the EDR format. |
| Flow Any Error Charging Action | Indicates the charging action configured for accounting action on packets dropped by Firewall due to any error. If disabled, no accounting is performed on such packets. |
| Billing Records | Status of billing record generation. |
| Limit For Total Flows | Status of flow limit setting across all applications. |
| Limit For TCP Flows | Status of TCP flow limit setting. |
| Limit For Non-TCP Flows | Status of non-TCP flow limit setting. |
| Charging Rule Optimization | Type of optimization rule setting for charging. |
| Firewall Configuration | |
| Dos-Protection | |

| Field | Description |
|--------------------------------|---|
| Source-Route | Indicates status of protection against IP Source Route IP Option attacks. |
| Win-Nuke | Indicates status of protection against Win Nuke attacks. |
| Mime-Flood | Indicates status of protection against MIME Flood attacks. |
| FTP-Bounce | Indicates status of protection against FTP Bounce attacks. |
| IP-Unaligned-Timestamp | Indicates status of protection against IP Unaligned Timestamp attacks. |
| Seq-Number-Prediction | Indicates status of protection against Sequence Number Prediction attacks. |
| TCP-Window-Containment | Indicates status of protection against TCP Window Containment. |
| Teardrop | Indicates status of protection against Teardrop attacks. |
| UDP Flooding | Indicates status of protection against UDP Flooding attacks. |
| ICMP Flooding | Indicates status of protection against ICMP Flooding attacks. |
| SYN Flooding | Indicates status of protection against SYN Flooding attacks. |
| Port Scan | Indicates status of protection against Port Scan attacks. |
| Max-Packet-Size | |
| ICMP | For ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall. |
| Non-ICMP | For non-ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall. |
| Flooding | |
| ICMP limit | The maximum number of ICMP packets allowed during a sampling interval. |
| UDP limit | The maximum number of UDP packets allowed during a sampling interval. |
| TCP-SYN limit | The maximum number of TCP-SYN packets allowed during a sampling interval. |
| Sampling Interval | The flooding sampling interval, in seconds. |
| TCP-SYN Flood Intercept | |

| Field | Description |
|---|--|
| Mode | The TCP SYN flood intercept mode. <ul style="list-style-type: none"> • none • intercept • watch |
| Max-Attempts | The maximum number of attempts for sending proxy SYN to the target. |
| Retrans-timeout | The SYN-Proxy retransmit timeout, in seconds. |
| Watch-timeout | The TCP intercept watch timeout, in seconds. |
| Mime-Flood Params | |
| HTTP Header-Limit | The maximum number of headers allowed in an HTTP packet. |
| HTTP Max-Header-Field-Size | The maximum header field size allowed in an HTTP header, in bytes. |
| No Firewall Ruledef Match Action | |
| Uplink Action | Action configured for uplink packets with no Stateful Firewall ruledef matches. |
| Uplink Charging-Action | Charging action configured for uplink packets with no Stateful Firewall ruledef matches. |
| Downlink Action | Action configured for downlink packets with no Stateful Firewall ruledef matches. |
| Downlink Charging-Action | Charging action configured for downlink packets with no Stateful Firewall ruledef matches. |
| ICMP Dest-Unreachable Threshold | Indicates whether a threshold limit is set on the number of ICMP error messages sent by the subscriber for a particular data flow. |
| ICMP Dest-Unreachable Threshold Value | The threshold value set for the number of ICMP error messages sent by the subscriber for a particular data flow. |
| QoS Renegotiation Timeout | The timeout setting for the Quality of Service (QoS) Renegotiation feature. |
| EDR Suppress zero byte records | Indicates whether EDR suppression of zero byte records is enabled. |
| EDR Timestamp Rounding | Type of timestamp rounding set for Event Detail Records. |
| EGCDR Timestamp Rounding | Type of timestamp rounding set for eG-CDRs. |
| RTP Dynamic Routing | Status of RTP dynamic routing configuration. |

| Field | Description |
|--|---|
| Ignore port no. in application headers | Status of ignoring port numbers in application headers. |
| Delayed Charging | Status of charging configuration to exclude initial handshaking TCP packets from charging. |
| IP Reassembly-Timeout | IP reassembly timeout period in milliseconds. |
| IP Reset ToS field | Status of IP Reset ToS field. |
| TCP Out-of-Order-Timeout | TCP out-of-order timeout period in milliseconds. |
| TCP 2MSL Timeout | TCP 2MSL timeout period in seconds. |
| Port Reuse | Indicates whether the Port Reuse feature is enabled or disabled. |
| WTP Out-of-Order-Timeout | WTP out-of-order timeout period in milliseconds. |
| TCP transmit-out-of-order-packets | Status of transmitting TCP out-of-order packets. |
| Verify TCP checksum | Status of verifying TCP checksum errors. |
| Verify UDP checksum | Status of verifying UDP checksum errors. |
| P2P Dynamic Routing | Status of P2P dynamic routing. |
| Total rulebase(s) found | Total number of rulebases matching the criteria. |
| CAE-Readdressing | Indicates whether CAE re-addressing on the Mobile Video Gateway is enabled or disabled. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| Override Control | Indicates whether the Override Control feature is enabled or disabled. |
| Percentage Rate Reduction | If enabled, indicates the configured bit rate reduction for mobile video as a percentage of the input bit rate. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| HTTP header-parse-limit | For a customer-specific feature, this field indicates the HTTP header parse limit, in bytes. On exceeding this limit the flow is marked as permanent failure and is matched and charged against http error = TRUE ruledef. If the feature is disabled, shows "disabled". |
| TFT updates to UE for default bearer | Indicate if the selective TFT suppression feature is enabled or disabled for the default bearer. |
| UIDH Insertion | Specifies if UIDH Insertion is enabled or disabled. |

| Field | Description |
|---------------|---------------------------------|
| Server-name | Specifies the UIDH server name. |
| URL Whitelist | |

show active-charging rulebase statistics

Table 73: show active-charging rulebase statistics Command Output Descriptions

| Field | Description |
|--|---|
| Service Name | Name of the ACS service. |
| Rulebase Name | Name of the rulebase. |
| Uplink Pkts | Total number of packets uplinked. |
| Uplink Bytes | Total number of bytes uplinked. |
| Downlink Pkts | Total number of packets downlinked. |
| Downlink Bytes | Total number of bytes downlinked. |
| Readdressed Upl Pkts | Total number of readdressed uplinked packets. |
| Readdressed Upl Bytes | Total number of readdressed uplinked bytes. |
| Readdressed Dnl Pkts | Total number of readdressed downlinked packets. |
| Readdressed Dnl Bytes | Total number of readdressed downlinked bytes. |
| TCP MSS Inserted Pkts | Total number of TCP Maximum Segment Size (MSS) inserted packets. |
| TCP MSS Limited Pkts | Total number of TCP MSS limited packets. |
| TCP 2msl port reuse | Total number of TCP connections reopened within 2msl timeframe. |
| ITC Terminated Flows | Total number of ITC terminated flows. |
| Total PP Dropped Packets | Total number of packets dropped. |
| Total PP Dropped Packet Bytes | Total number of bytes dropped. |
| R7Gx Rule-Matching Failure Stats: | |
| Total Dropped Packets | Total number of packets dropped by R7Gx due to rule matching failure, for the rulebase. |
| Total Dropped Packet Bytes | Total number of bytes dropped by R7Gx due to rule matching failure, for the rulebase. |

| Field | Description |
|---|---|
| TCP-proxy reset for non-SYN flows | Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. |
| EDRs | |
| Total EDRs generated | Total number of EDRs generated. |
| EDRs generated for handoff | Total number of EDRs generated for handoffs. |
| EDRs generated for timeout | Total number of EDRs generated for timeouts. |
| EDRs generated for normal-end-signaling | Total number of EDRs generated for normal end signaling. |
| EDRs generated for session end | Total number of EDRs generated for session ending. |
| EDRs generated for rule match | Total number of EDRs generated for rule matches. |
| EDRs generated for hagr | Total number of EDRs generated for HAGR. |
| EDRs generated for flow-end content-filtering | Total number of EDRs generated for flow-end Category-based Content Filtering. |
| EDRs generated for flow-end url-blacklisting | Total number of EDRs generated for flow-end URL Blacklisting. |
| EDRs generated for content-filtering | Total number of EDRs generated for Category-based Content Filtering. |
| EDRs generated for url-blacklisting | Total number of EDRs generated for URL Blacklisting. |
| EDRs generated for any-error packets | Total number of EDRs generated for any-error packets. |
| EDRs generated for firewall deny rule match | Total number of EDRs generated for firewall deny rule match. |
| EDRs generated for transaction completion | Total number of EDRs generated for completion of transactions. |
| EDRs generated for voip call end | Total number of EDRs generated on completion of voice calls. |
| EDRs generated for audio-end Sessions | Total number of EDRs generated on completion of audio sessions. |
| EDRs generated for video-end Sessions | Total number of EDRs generated on completion of video sessions. |
| Total Flow-Overflow EDRs | Total number of Flow-Overflow EDRs. |
| UDRs | |
| Total UDRs generated | Total number of UDRs generated. |
| UDRs generated for handoff | Total number of UDRs generated for handoffs. |
| UDRs generated for time limit | Total number of UDRs generated for time limits. |
| UDRs generated for volume limit | Total number of UDRs generated for volume limits. |
| UDRs generated for call end | Total number of UDRs generated for call endings. |

| Field | Description |
|---|---|
| UDRs generated for hagr | Total number of UDRs generated for HAGR. |
| UDRs generated for first-hit per content-id | Total number of UDRs generated for first hit content-Id trigger. |
| UDRs generated for CCRU response | Total number of UDRs generated for CCR-U response. |
| UDRs generated for offline charging | Total number of UDRs generated when offline charging trigger is received from DCCA. |
| UDRs generated for tariff time | Total number of UDRs generated when tariff time trigger is received. |
| UDRs generated for NEMO prefix update | Total number of UDRs generated for NEMO update event. Important This field is customer specific, and is available only with NEMO license. |
| GCDRs | |
| Total EGCDRs generated | Total number of eG-CDRs generated. |
| GCDRs for Normal Release | Total number of G-CDRs generated for normal releases. |
| GCDRs for Abnormal Release | Total number of G-CDRs generated for abnormal releases. |
| GCDRs for Volume Limit | Total number of G-CDRs generated for volume limits. |
| GCDRs for Time Limit | Total number of G-CDRs generated for time limits. |
| GCDRs for SGSN Change | Total number of G-CDRs generated for SGSN change. |
| GCDRs for Max Change Cond | Total number of G-CDRs generated for maximum change condition. |
| GCDRs for Mgmt Intervention | Total number of G-CDRs generated for management interventions. |
| GCDRs for RAT Change | Total number of G-CDRs generated for RAT changes. |
| GCDRs for MS Timezone Change | Total number of G-CDRs generated for MS timezone changes. |
| GCDRs for SGSN PLMN ID Change | Total number of G-CDRs generated for SGSN PLMN ID changes. |
| PGWCDRs for Normal Release | Total number of PGW-CDRs generated for normal releases. |
| PGWCDRs for Abnormal Release | Total number of PGW-CDRs generated for abnormal releases. |
| PGWCDRs for Volume Limit | Total number of PGW-CDRs generated for volume limits. |
| PGWCDRs for Time Limit | Total number of PGW-CDRs generated for time limits. |
| PGWCDRs for ServingNode Change | Total number of PGW-CDRs generated for Serving Node change. |
| PGWCDRs for Max Change Cond | Total number of PGW-CDRs generated for maximum change condition. |

| Field | Description |
|--|--|
| PGWCDRs for Mgmt Intervention | Total number of PGW-CDRs generated for management interventions. |
| PGWCDRs for RAT Change | Total number of PGW-CDRs generated for RAT changes. |
| PGWCDRs for MS Timezone Change | Total number of PGW-CDRs generated for MS timezone changes. |
| PGWCDRs for SGSN PLMN ID Change | Total number of PGW-CDRs generated for SGSN PLMN ID changes. |
| NBRs | NAT Binding Record (NBR) statistics. These fields are displayed, only if configured, in 8.3 and later releases. |
| Total NBRs generated | Total number of NBRs generated. |
| NBRs generated for port chunk allocation | Total number of NBRs generated for port chunk allocation. |
| NBRs generated for port chunk release | Total number of NBRs generated for port chunk release. |
| CAE-Readdressing: | |
| Requests CAE-Readdressed | Total number of request readdressing done. |
| Responses CAE-Readdressed | Total number of response readdressing done. |
| Requests having xheader inserted | Total number of HTTP requests with x-headers inserted. |
| Total CAE-Readdressed Uplink Bytes | Total number of uplink bytes readdressed. |
| Total CAE-Readdressed Uplink Packets | Total number of uplink packets readdressed. |
| Total CAE-Readdressed Downlink Bytes | Total number of downlink bytes readdressed. |
| Total CAE-Readdressed Downlink Packets | Total number of downlink packets readdressed. |
| Total Charging action hit - Req. Readdr. | Total number of charging action hits based on HTTP request. |
| Total Charging action hit - Resp. Readdr | Total number of charging action hits based on HTTP response. |
| Proxy Disable Success | Total number of flows with proxy disabled. |
| Flows connected to CAE | Total number of flows connected to the CAE. |
| CAE Readdressing Error Conditions | |
| Total connect failed to CAE | Total number of connections failed to the CAE. |
| Req. Readdr. - pipelined case | Total number of pipelined requests skipped from doing readdressing. |
| Resp. Readdr. - pipelined case | Total number of pipelined response skipped from doing readdressing. |

| Field | Description |
|--|--|
| Req. Readdr. - Socket Mig. failed | Total number of TCP socket migration failure during request readdressing. |
| Skipped Resp. Readdr. - partial resp hdr | Total number of response readdressing skipped due to partial response. |
| Resp. Readdr. - Socket Mig. failed | Total number of TCP socket migration failure during response readdressing. |
| Total CAE load balancer failed | Total number of load balancer failures to find the video server (CAE) for readdressing. |
| Total MVG xheader insertion failed | Total number of MVG x-header insertion failures. Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative. |
| Proxy Disable Failed | Total number of times the proxy disable function failed. |
| Tethering Detection | |
| TAC ID lookups | Total number of TAC ID lookups. |
| TAC ID matches | Total number of TAC IDs matched. |
| OS signatures lookups | Total number of OS signatures lookups. |
| OS signatures matches | Total number of OS signatures matched. |
| IPv6 OS signatures lookups | Total number of IPv6 OS signatures lookups. |
| IPv6 OS signatures matches | Total number of IPv6 OS signatures matched. |
| UA signatures lookups | Total number of UA signatures lookups. |
| UA signatures matches | Total number of UA signatures matched. |
| Total flows scanned | Total number of flows scanned. |
| Tethered flows detected | Total number of tethered flows detected. |
| Non-tethered flows detected | Total number of non-tethered flows detected. |
| TRM Statistics: | |
| Bypassed rule-matching | Total number of requests that bypassed rule matching, using the cached rule match instead. |
| Rule-matching bypass triggered | Total number of times a flow or transaction was put into bypass state, bypassing additional rule matching. |
| Failed to create dynamic flow element | Total number of times a flow or transaction failed to go into bypass state due to a shortage of memory control blocks for a dynamic rule list element. |

| Field | Description |
|---|---|
| Flow cleared, rule not found | Total number of times TRM was cleared from a flow or transaction due to the cached rule no longer being available (i.e. deleted from config). |
| Flow cleared, rule stats not found | Total number of times TRM was cleared from a flow or transaction due to the cached rule's statistics no longer being available (i.e. deleted from config). |
| Flow cleared, group not found | Total number of times TRM was cleared from a flow or transaction due to the group no longer being available (i.e. deleted from config). |
| Flow cleared, group rule error | Total number of times TRM was cleared from a flow or transaction due to the group's rule no longer matching the cached rule (i.e. config change). |
| Flow cleared, rule error | Total number of times TRM was cleared from a flow or transaction due to the rule ID in the rule control block no longer matching the cached rule ID (i.e. config change). |
| Flow cleared, rule expired | Total number of times TRM was cleared from a flow or transaction due to the expiry of a dynamic rule's time. |
| Flow cleared, pkts not forwarded | Total number of times TRM was cleared from a flow or transaction due to the packet not being forwarded for some reason (i.e. user QoS or out of quota). |
| Flow cleared, pkts buffered | Number of times TRM was cleared from a flow or transaction due to the packet being buffered for later transmit (i.e. quota redirect). |
| Flow cleared, SEF event | Total number of times TRM was cleared from a flow or transaction due to a user modification event (i.e. QoS change, policy change, etc). |
| Flow cleared, egcdr bucket idle time out | Total number of times TRM was cleared from a flow or transaction due to service idle timeout expiry of eG-CDR bucket. |
| FastPath Eligible Flows | Number of data flows which were fastpath eligible for this rulebase. |
| FastPath Packets | Number of data packets processed in fastpath for this rulebase. |
| FastPath Failures | Number of fastpath packet errors encountered for this rulebase. |
| Override Control Install Statistics: | |
| Total number of Overrides Received | Total number of overrides received for the specified rulebase. |
| Total number of Overrides Succeeded | Total number of overrides succeeded for the specified rulebase. |
| Total number of Overrides Failed | Total number of overrides failed for the specified rulebase. |

| Field | Description |
|---|--|
| Total number of Subscribers | Total number of subscribers with override control in the specified rulebase. |
| Disable Override Control Statistics: | |
| Total number of Disables Received | Total number of disable overrides received for the specified rulebase. |
| Total number of Disables Succeeded | Total number of disable overrides succeeded for the specified rulebase. |
| Total number of Disables Failed | Total number of disable overrides failed for the specified rulebase. |

show active-charging rulebase statistics name

Table 74: show active-charging rulebase statistics name Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Service Name | Name of the Active Charging Service. |
| Rulebase Name | Name of the rulebase. |
| Uplink Pkts | Total number of packets uplinked. |
| Uplink Bytes | Total number of bytes uplinked. |
| Downlink Pkts | Total number of packets downlinked. |
| Downlink Bytes | Total number of bytes downlinked. |
| Readdressed Upl Pkts | Total number of readdressed uplink packets. |
| Readdressed Upl Bytes | Total number of readdressed uplink bytes. |
| Readdressed Dnl Pkts | Total number of readdressed downlink packets. |
| Readdressed Dnl Bytes | Total number of readdressed downlink bytes. |
| Total Readdressing Failures | Total number of packets with readdressing failures. |
| Non Syn Flow | Total number of readdressing packets with a non SYN flow failure. |
| Duplicate Key | Total number of readdressing packets with a duplicate key failure. |
| Dropped Pkts | Total number of packets discarded on readdressing failure. |
| TCP MSS Inserted Pkts | Total number of Maximum Segment Size (MSS) inserted packets. |
| TCP MSS Limited Pkts | Total number of MSS limited packets. |

| Field | Description |
|---|---|
| TCP MSS Limited Pkts | Total number of MSS limited packets. |
| TCP 2msl port reuse | Total number of TCP connections reopened within 2msl timeframe. |
| Total PP Dropped Packets | Total number of packets dropped. |
| Total PP Dropped Packet Bytes | Total number of bytes dropped. |
| One Time Hit PCC Rule Matched | Total number of matches for one time hit PCC rules. |
| R7Gx Rule-Matching Failure Stats: | |
| Total Dropped Packets | Total number of packets dropped by R7Gx due to rule matching failure, for the rulebase. |
| Total Dropped Packet Bytes | Total number of bytes dropped by R7Gx due to rule matching failure, for the rulebase. |
| P2P random drop stats: | |
| Total Dropped Packets | Total number of packets dropped due to random drop to degrade voice quality. |
| Total Dropped Packet Bytes | Total number of bytes dropped due to random drop to degrade voice quality. |
| Predefined Rule Retention Statistics: | |
| Total number of Predefined Retention Succeeded | Total number of predefined retention succeeded. |
| Total number of Predefined Retention Failed | Total number of predefined retention failed. |
| Predefined Rule Installation Statistics: | |
| Total Number of Installation Received | Total number of predefined installation received. |
| Total Number of Installation Succeeded | Total number of predefined installation succeeded. |
| Total Number of Installation Failed | Total number of predefined installation failed. |
| Predefined Rule Removal Statistics: | |
| Total Number of Removal Received | Total number of predefined removal received. |
| Total Number of Removal Succeeded | Total number of predefined removal succeeded. |
| Total Number of Removal Failed | Total number of predefined removal failed. |
| Charging EDRs: | |
| Total Charging EDRs generated | Total number of EDRs generated. |
| EDRs generated for handoff | Total number of EDRs generated for handoffs. |

| Field | Description |
|--|---|
| EDRs generated for timeout | Total number of EDRs generated for timeouts. |
| EDRs generated for normal-end-signaling | Total number of EDRs generated for normal end signaling. |
| EDRs generated for session end | Total number of EDRs generated for session ends. |
| EDRs generated for rule match | Total number of EDRs generated for rule matches. |
| EDRs generated for hagr | Total number of EDRs generated for HAGR. |
| EDRs generated for flow-end content-filtering | Total number of EDRs generated for flow-end content filtering. |
| EDRs generated for content-filtering | Total number of EDRs generated for content filtering. |
| EDRs generated for any-error packets | Total number of EDRs generated for packets dropped by Firewall due to any error. |
| EDRs generated for firewall deny rule match | Total number of EDRs generated for firewall deny rule matches. |
| EDRs generated for voip call end | Total number of EDRs generated on completion of voice calls. |
| EDRs generated for dcca failure handling | Total number of EDRs generated for DCCA failure handling. |
| EDRs generated for audio-end Sessions | Total number of EDRs generated on completion of audio sessions. |
| EDRs generated for video-end Sessions | Total number of EDRs generated on completion of video sessions. |
| EDRs generated for tethering signature change | Total number of EDRs generated for tethering signature change. |
| Reporting EDRs: | |
| Total Reporting EDRs generated | Total number of REDRs generated. |
| REDRs generated for handoff | Total number of REDRs generated for handoffs. |
| REDRs generated for timeout | Total number of REDRs generated for timeouts. |
| REDRs generated for normal-end-signaling | Total number of REDRs generated for normal end signaling. |
| REDRs generated for session end | Total number of REDRs generated for session ends. |
| REDRs generated for rule match | Total number of REDRs generated for rule matches. |
| REDRs generated for hagr | Total number of REDRs generated for HAGR. |
| REDRs generated for flow-end content-filtering | Total number of REDRs generated for flow-end content filtering. |
| REDRs generated for flow-end url-blacklisting | Total number of REDRs generated for flow-end url-blacklisting. |
| EDRs generated for content-filtering | Total number of REDRs generated for content filtering. |
| REDRs generated for url-blacklisting | Total number of REDRs generated for url-blacklisting. |
| REDRs generated for any-error packets | Total number of REDRs generated for packets dropped by Firewall due to any error. |

| Field | Description |
|--|---|
| REDRs generated for firewall deny rule match | Total number of REDRs generated for firewall deny rule matches. |
| REDRs generated for transaction completion | Total number of REDRs generated for transaction completion. |
| REDRs generated for voip call end | Total number of REDRs generated on completion of voice calls. |
| REDRs generated for tethering signature change | Total number of REDRs generated for tethering signature change. |
| UDRs: | |
| Total UDRs generated | Total number of UDRs generated. |
| UDRs generated for handoff | Total number of UDRs generated for handoffs. |
| UDRs generated for time limit | Total number of UDRs generated for time limits. |
| UDRs generated for volume limit | Total number of UDRs generated for volume limits. |
| UDRs generated for call end | Total number of UDRs generated for call ends. |
| UDRs generated for hagr | Total number of UDRs generated for HAGR. |
| GCDRs: | |
| Total EGCDRs generated | Total number of eG-CDRs generated. |
| GCDRs for Normal Release | Total number of G-CDRs generated for normal releases. |
| GCDRs for Abnormal Release | Total number of G-CDRs generated for abnormal releases. |
| GCDRs for Volume Limit | Total number of G-CDRs generated for volume limits. |
| GCDRs for Time Limit | Total number of G-CDRs generated for time limits. |
| GCDRs for SGSN Change | Total number of G-CDRs generated for SGSN changes. |
| GCDRs for Max Change Cond | Total number of G-CDRs generated for maximum change condition. |
| GCDRs for Mgmt Intervention | Total number of G-CDRs generated for management interventions. |
| GCDRs for RAT Change | Total number of G-CDRs generated for RAT changes. |
| GCDRs for MS Timezone Change | Total number of G-CDRs generated for MS timezone changes. |
| GCDRs for SGSN PLMN ID Change | Total number of G-CDRs generated for SGSN PLMN ID changes. |
| Total rulebases matched | Total number of rulebases that matched the specified criteria. |
| Tethering Detection stats: | |
| TAC ID lookups | Total number of TAC ID lookups. |
| TAC ID matches | Total number of TAC ID matches. |

| Field | Description |
|--|--|
| OS signature lookups | Total number of OS signature lookups. |
| OS signature matches | Total number of OS signature matches. |
| UA signature lookups | Total number of UA signature lookups. |
| UA signature matches | Total number of UA signature matches. |
| Total flows scanned | Total number of flows scanned for tethering detection. |
| Tethered flows detected | Total number of tethered flows detected. |
| Tethered Uplink Packets | Total number of uplink packets for tethered flows. |
| Tethered Downlink Packets | Total number of downlink packets for tethered flows. |
| Tethering Detection Statistics (ip-ttl) | |
| Total flows scanned | Total number of flows scanned. |
| Tethered flows detected | Total number of tethered flows detected. |
| Tethered uplink packets | Total number of uplink packets for tethered flows. |
| Tethered downlink packets | Total number of downlink packets for tethered flows. |
| Change Statistics for Multiple SYN in Flow: | |
| Tethered to Non-Tethered | This counter is updated when previous SYN has tethered signature and new SYN has non-tethered signature. |
| Non-Tethered to Tethered | This counter is updated when previous SYN has non-tethered signature and new SYN has tethered signature. |
| Tethered to Tethered | This counter is updated when previous SYN has tethered signature and new SYN also has tethered signature. |
| Non-Tethered to Non-Tethered | This counter is updated when previous SYN has non-tethered signature and new SYN also has non-tethered signature. |
| Header Enrichment stats: | |
| HTTP header buffering limit reached | Total number of times the HTTP header buffering fails due to the maximum buffering limit reached. On a header buffering failure, the buffered packets are flushed and sent out without modification, and rule matching is performed on the last packet where the header finished. |
| Enterprise-ID received over Gx | Indicates the Enterprise ID of a user that PCRF sends in a custom-AVP over the Gx interface. |
| TRM Statistics: | |

| Field | Description |
|---------------------------------------|---|
| Bypassed rule-matching | Total number of requests that bypassed rule matching, using the cached rule match instead. |
| Rule-matching bypass triggered | Total number of times a flow or transaction was put into bypass state, bypassing additional rule matching. |
| Failed to create dynamic flow element | Total number of times a flow or transaction failed to go into bypass state due to a shortage of memory control blocks for a dynamic rule list element. |
| Flow cleared, rule not found | Total number of times TRM was cleared from a flow or transaction due to the cached rule no longer being available (i.e. deleted from config). |
| Flow cleared, rule stats not found | Total number of times TRM was cleared from a flow or transaction due to the cached rule's statistics no longer being available (i.e. deleted from config). |
| Flow cleared, group not found | Total number of times TRM was cleared from a flow or transaction due to the group no longer being available (i.e. deleted from config). |
| Flow cleared, group rule error | Total number of times TRM was cleared from a flow or transaction due to the group's rule no longer matching the cached rule (i.e. config change). |
| Flow cleared, rule error | Total number of times TRM was cleared from a flow or transaction due to the rule ID in the rule control block no longer matching the cached rule ID (i.e. config change). |
| Flow cleared, rule expired | Total number of times TRM was cleared from a flow or transaction due to the expiry of a dynamic rule's time. |
| Flow cleared, pkts not forwarded | Total number of times TRM was cleared from a flow or transaction due to the packet not being forwarded for some reason (i.e. user QoS or out of quota). |
| Flow cleared, pkts buffered | Number of times TRM was cleared from a flow or transaction due to the packet being buffered for later transmit (i.e. quota redirect). |
| Flow cleared, SEF event | Total number of times TRM was cleared from a flow or transaction due to a user modification event (i.e. QoS change, policy change, etc). |
| FastPath Eligible Flows | Number of data flows which were fastpath eligible for this rulebase. |
| FastPath Packets | Number of data packets processed in fastpath for this rulebase. |
| FastPath Failures | Number of fastpath packet errors encountered for this rulebase. |
| URL-Readdressing: | |

| Field | Description |
|--|--|
| Requests URL-Readdressed | Total number of URL-readdressed requests. |
| Total Charging action hit - Req. Readdr. | Total number of charging action hits based on request readdressing. |
| Proxy Disable Success | Total number of flows with proxy disabled. |
| Flows connected to URL Server | Total number of flows connected to URL server. |
| URL Readdressing Error Conditions: | |
| Total connect failed to URL Server | Total number of failed connections to the URL server. |
| URL Readdress - pipelined case | Total number of pipelined requests skipped during URL readdressing. |
| URL Readdress - Socket Mig. failed | Total number of TCP socket migration failure during URL readdressing. |
| Proxy Disable Failed | Total number of times the proxy disable function failed. |
| Dynamic Rule Statistics | |
| Rule Installation Statistics | |
| Total number of Installation Received | The number of dynamic rules received for installation from PCRF |
| Total number of Installation Succeeded | The number of dynamic rules installed successfully |
| Total number of Installation Failed | The number of dynamic rule installations failed |
| Rule Installation Failure Statistics: | |
| Unknown Rule Name Error | The number of dynamic rule installations failed because the rule name was not specified |
| Rating Group Error | The number of dynamic rule installations failed because rating group was invalid/missing. |
| Service ID Error | The number of dynamic rule installations failed because the service ID was invalid/missing. |
| Trigger Policy Failure | The number of dynamic rule installations failed because of internal policy failure |
| Resources Limitation | The number of dynamic rule installations failed because of the limitation of resources |
| Maximum Number Of Bearer Reached | The number of dynamic rule installations failed because the maximum limit of bearer is reached |
| Flow Information Missing | The number of dynamic rule installations failed because the flow information is missing |

| Field | Description |
|--|---|
| Resource Allocation Failure | The number of dynamic rule installations failed because the resource allocation failed. |
| QOS Validation Error | The number of dynamic rule installations failed because the QoS validation failed. |
| Incorrect Flow Information | Number of dynamic rule installations failed because the flow information is incorrect. |
| Adc Rule - Redirect Server Address Missing | Number of dynamic rule installations failed because the redirect address is missing in an ADC rule. |
| Adc Rule - TDF App ID Error | Number of dynamic rule installations failed because the TDF Application ID is invalid/missing. |
| Rule Modification Statistics: | |
| Total number of Modification Received | Number of dynamic rule modifications received. |
| Total number of Modification Succeeded | Number of dynamic rule modifications succeeded. |
| Total number of Modification Failed | Number of dynamic rule modifications failed |
| Rule Modification Failure Statistics: | |
| Rating Group Error | Number of dynamic rule modifications failed because the rating group is invalid/missing |
| Service ID Error | Number of dynamic rule modifications failed because the service ID is invalid/missing. |
| Trigger Policy Failure | Number of dynamic rule modifications failed because of the internal policy failure |
| Resources Limitation | Number of dynamic rule modifications failed because of the limitation of resources. |
| Maximum Number Of Bearer Reached | Number of dynamic rule modifications failed because the maximum limit of bearer is reached. |
| Resource Allocation Failure | Number of dynamic rule modifications failed because of allocation of resources failed. |
| QOS Validation Error | Number of dynamic rule modifications failed because the QoS validation failed. |
| Incorrect Flow Information | Number of dynamic rule modifications failed because the flow information is incorrect. |
| Adc Rule - Redirect Server Address Missing | Number of dynamic rule modifications failed because the redirect address is missing in an ADC rule. |

| Field | Description |
|---|---|
| Adc Rule - TDF App ID Error | Number of dynamic rule modifications failed because the TDF application ID is invalid/missing in an ADC rule. |
| Common Rule Statistics | |
| Total Number Of Common Rules Received | Number of dynamic rules received in installation/modification. |
| Total Number Of Common Failures | Number of dynamic rules failed in installation/modification. |
| Unknown Bearer ID Error | Number of dynamic rules failed during installation/modification because the bearer ID is not known |
| Resource Allocation Failure | Number of dynamic rules failed during installation/modification because the resource allocation failed |
| Already Installed Rule removal | |
| Total Number Of Intended Removals | Number of dynamic rules intentionally failed due to some internal event. |
| PS to CS Handover | Number of dynamic rules intentionally failed due to PS to CS handover. |
| Resource Allocation Failure | Number of dynamic rules intentionally failed due to resource allocation failure. |
| Rule Removal Statistics | |
| Total Number Of Removal Received | Number of dynamic rule removals received. |
| Total Number Of Removal Succeeded | Number of dynamic rules removed successfully. |
| Total Number Of Removal Failed | Number of dynamic rule removals failed. |
| Rule Removal Failure Statistics: | |
| BCM Mode Mismatch | Number of dynamic rule removals failed because the BCM mode has changed |
| Condition Action Statistics: | |
| Out of Credit allow actions received | Total number of times the "out of credit allow" actions have been received. |
| Action applied to packets | Total number of packets to which the "out of credit allow" actions are applied. |
| Action applied to bytes | Total number of bytes to which the "out of credit allow" actions are applied. |
| Current Opt-In Subscribers | Indicates the current Opt-In subscribers. |
| Total UIDH Request | Indicates the total number of UIDH requests. |

| Field | Description |
|----------------------------|---|
| Initial | Specifies the total number of initial UIDH requests transmitted |
| Refresh | Specifies the total number of UIDH Refresh Requests transmitted. |
| Total UIDH OptIn Response | Indicates the total number of UIDH Opt-In response. |
| Initial | Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for the Initial Requests. |
| Refresh | Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for Refresh Requests. |
| Total UIDH OptOut Response | Indicates the total number of Opt-out response. |
| Initial | Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Initial Requests. |
| Refresh | Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Refresh Requests. |
| UIDH Failure | Indicates the UIDH Failure. |
| Request Timeout | Specifies the total number of UIDH Requests that have expired on reaching the timeout value. |
| Initial | Specifies the total number of initial UIDH Requests that have expired on reaching the timeout value. |
| Refresh | Specifies the total number of refresh UIDH requests that have expired on reaching the timeout value. |
| Error Response Code | Indicates the UIDH Failure with an error response code. |
| Initial | Specifies the total of Failure Code UIDH response received for Initial Requests. |
| Refresh | Specifies the total of Failure Code UIDH response received for Refresh Requests. |
| Invalid Length | |
| Initial | |
| Refresh | |
| Request Enqueue Failed | |
| Initial | |
| Refresh | |
| Total UIDH Insertions | Indicates the total number of UIDH insertions in a HTTP request. |

| Field | Description |
|---------------------------|--|
| UIDH Whitelist Statistics | |
| URL Host Lookups | Specifies the number of URL Host lookups |
| URL Host Lookup Failed | Specifies the number of URL Host lookups that resulted in failure. |
| URL Host Matches | Specifies the number of URL Hosts matched. |
| URL Host Lookup Bypass | Specifies the number of URL Host Lookups bypassed |

show active-charging ruledef firewall

Table 75: show active-charging ruledef firewall Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Service Name | Name of the Active Charging Service. |
| Ruledef Name | Name of the ruledef. |
| tcp client-port | The TCP client port number. |
| tcp dst-port | The TCP destination port number. |
| tcp src-port | The TCP source port number. |
| tcp server-port | The TCP server port number. |
| udp client-port | The UDP client port number. |
| udp dst-port | The UDP destination port number. |
| udp src-port | The TCP source port number. |
| udp server-port | The UDP server port number. |
| ip any-match | Indicates whether the ruledef analyzes user traffic based on IP analyzed state—true/false. |
| Rule Application Type | The rule application type—firewall. |
| Create-log-record | Indicates whether logging is enabled or disabled. |
| Total ruledef(s) configured | Total number of Stateful Firewall ruledefs configured. |

show active-charging ruledef statistics

Table 76: show active-charging ruledef statistics Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| Total Charging Ruledefs | Total number of charging ruledefs configured. |
| Uplink Packets | Total number of packets received in uplink flow. |
| Uplink Bytes | Total number of bytes received in uplink flow. |
| Downlink Packets | Total number of packets received in downlink flow. |
| Downlink Bytes | Total number of bytes received in downlink flow. |
| Hits | Total number of events. |
| Match-Bypassed | Total number of packets bypassed on all ruledefs. |
| Total Post-processing Ruledefs | Total number of post-processing ruledefs configured. |
| Uplink Packets | Total number of packets received in uplink flow. |
| Uplink Bytes | Total number of bytes received in uplink flow. |
| Downlink Packets | Total number of packets received in downlink flow. |
| Downlink Bytes | Total number of bytes received in downlink flow. |
| Hits | Total number of events. |
| Total Firewall Ruledefs | Total number of Stateful Firewall ruledefs configured. |
| Uplink Packets | Total number of packets received in uplink flow. |
| Uplink Bytes | Total number of bytes received in uplink flow. |
| Downlink Packets | Total number of packets received in downlink flow. |
| Downlink Bytes | Total number of bytes received in downlink flow. |
| Uplink Packets Dropped | Total number of packets dropped in uplink flow. |
| Uplink Bytes Dropped | Total number of bytes dropped in uplink flow. |
| Downlink Packets Dropped | Total number of packets dropped in downlink flow. |
| Downlink Bytes Dropped | Total number of bytes dropped in downlink flow. |
| Hits | Total number of events. |
| Total TPO Ruledefs | Important The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |

| Field | Description |
|---------------------------------|---|
| Hits | Important The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |
| Total Default Firewall Ruledefs | Total number of default Firewall ruledefs. |
| Uplink Packets | Total number of packets received in uplink flow. |
| Uplink Bytes | Total number of bytes received in uplink flow. |
| Downlink Packets | Total number of packets received in downlink flow. |
| Downlink Bytes | Total number of bytes received in downlink flow. |
| Uplink Packets Dropped | Total number of packets dropped in uplink flow. |
| Uplink Bytes Dropped | Total number of bytes dropped in uplink flow. |
| Downlink Packets Dropped | Total number of packets dropped in downlink flow. |
| Downlink Bytes Dropped | Total number of bytes dropped in downlink flow. |
| Hits | Total count of hits by default Firewall ruledefs. |

show active-charging ruledef statistics all firewall wide

Table 77: show active-charging ruledef statistics all firewall wide Command Output Descriptions

| Field | Description |
|----------------|---|
| Ruledef Name | Name of the Stateful Firewall ruledef. |
| Packets-Down | Total number of packets downlinked. |
| Bytes-Down | Total number of bytes downlinked. |
| Packets-Up | Total number of packets uplinked. |
| Bytes-Up | Total number of bytes uplinked. |
| Pkts-Drop-Dn | Total number of downlink packets dropped. |
| Bytes-Drop-Dn | Total number of downlink bytes dropped. |
| Pkts-Drop-Up | Total number of uplink packets dropped. |
| Bytes-Drop-Up | Total number of uplink bytes dropped. |
| Hits | Total number of events. |
| Match-Bypassed | Total number of packets bypassed on all ruledefs. |

| Field | Description |
|------------------------------|--|
| Total Ruledef(s) | Total number of ruledefs. |
| SFW Default Ruledefs: | |
| ALG Pinholes | Total number of packets which do not match SFW ruledefs configured in Firewall-and-NAT policy when NAT ALG is enabled in ECS but allowed to reach ISP or vice-versa. |
| Default Uplink | Total number of packets which do not match any SFW ruledefs configured but allowed to reach ISP from MS (uplink). This is due to the default SFW behavior. |
| Default Downlink | Total number of packets which do not match any SFW ruledefs configured but allowed to reach MS from ISP (downlink). This is due to the default SFW behavior. |
| Total Ruledef(s) | Total number of ruledefs per ACS sub-session. |
| Total Default SFW Ruledef(s) | Total number of default SFW ruledefs. |

show active-charging ruledef statistics all charging

Table 78: show active-charging ruledef statistics all charging Command Output Descriptions

| Field | Description |
|------------------|-------------------------------------|
| Ruledef Name | Name of the charging ruledef. |
| Packets-Down | Total number of packets downlinked. |
| Bytes-Down | Total number of bytes downlinked. |
| Packets-Up | Total number of packets uplinked. |
| Bytes-Up | Total number of bytes uplinked. |
| Hits | Total number of events. |
| Total Ruledef(s) | Total number of charging ruledefs. |

show active-charging ruledef statistics all tpo

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging ruledef tpo

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging service all

Table 79: show active-charging service all Command Output Descriptions

| Field | Description |
|---|---|
| Service name | Name of the Active Charging Service. |
| TCP Flow Idle Timeout | TCP flow idle timeout period, in seconds. |
| UDP Flow Idle Timeout | UDP flow idle timeout period, in seconds. |
| ICMP Flow Idle Timeout | ICMP flow idle timeout period, in seconds. |
| ALG Media Idle Timeout | The configured ALG media idle timeout value, in seconds. |
| TCP Flow-Mapping Idle Timeout | The configured TCP flow-mapping timeout value, in seconds. |
| UDP Flow-Mapping Idle Timeout | The configured UDP flow-mapping timeout value, in seconds. |
| Deep Packet Inspection | Indicates whether Deep Packet Inspection is enabled. |
| Passive Mode | Indicates whether Passive Mode is enabled. |
| CDR Flow Control | Indicates whether CDR Flow Control is enabled. |
| Content Filtering | Indicates whether Category-based Content Filtering is enabled. |
| Dynamic Content Filtering | Indicates whether Dynamic Content Filtering is enabled. |
| URL-Blacklisting | Indicates whether URL Blacklisting is enabled. |
| URL-Blacklisting Match-method | Indicates the URL Blacklisting method to look up URLs in the URL Blacklisting database. |
| Content Filtering Match-method | Indicates the match method to look up URLs in the category-based content filtering database. |
| Interpretation of Charging-rule-base-name | Indicates how the Charging-Rule-Base-Name AVP from PCRF is interpreted, either as ACS rulebase or ACS group-of-ruledefs. |
| Selection of Charging-rule-base | If multiple Charging-Rule-Base-Name AVP are received from the PCRF, indicates which rulebase is selected and applied to the call, the first or the last rulebase. |
| Credit Control: | |

| Field | Description |
|--|--|
| Mode | Indicates the pre-paid charging application mode—Diameter or RADIUS. |
| APN-name-to-be-included | Indicates the APN name to be sent in CCA messages. |
| Trigger-Type | Indicates the credit control reauthorization trigger type. |
| Event-Trigger-Type | Indicates the configured credit control reauthorization event trigger type. |
| Failure-Handling | |
| Initial-Request | Indicates whether initial-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server. |
| Update-Request | Indicates whether update-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server. |
| Terminate-Request | Indicates whether terminate-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server. |
| Server Unreachable Failure-Handling | |
| Initial-Request | Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| Update-Request | Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| Diameter: | |
| Endpoint | Name of the Diameter endpoint. |
| Endpoint-Realm | Realm of the Diameter endpoint. |
| Dictionary | The Diameter dictionary used for Credit Control. |
| Session-Failover | Indicates whether Session Failover is supported. |
| Pending-Timeout | Indicates the pending timeout period, in seconds. |
| HDD | Indicates whether the Credit-Control group has been configured to store the failed CCR-Ts in the HDD. |
| Peer-Select: | |
| Peer | Name of the peer. |
| Realm | Indicates realm for the peer. |

| Field | Description |
|----------------------------------|---|
| Secondary-Peer | Name of the secondary peer. |
| Realm | Indicates realm for the secondary peer. |
| IMSI-Based Start-Value | To select the Diameter peer based on the International Mobile Subscriber Identification (IMSI) number, specify the start of range in integer value of IMSI. |
| IMSI-Based End-Value | The end of range in integer value of IMSI. |
| MSISDN-Range-Mode | To select the Diameter peer based on Mobile Station International Subscriber Directory (MSISDN) number, specify the prefix or suffix mode. |
| MSISDN-Based Start-Value | To select the peer based on MSISDN value, specify the start of range in integer value of MSISDN. |
| MSISDN-Based End-Value | The end of range in integer value of MSISDN. |
| Quota | |
| Request-Trigger | Indicates the trigger action on packets on crossing the threshold limit of subscriber quota in the pre-paid credit control service. |
| Holding-Time | Indicates the Quota Holding Time (QHT). |
| Validity-Time | Indicates the validity lifetime of the quota in seconds. |
| Time-Threshold | Indicates the time threshold for pre-paid credit control quota. |
| Units-Threshold | Indicates the units threshold for DCCA quota in percentage. |
| Volume-Threshold | Indicates the volume threshold for pre-paid credit control quota. |
| Pending-Traffic-Treatment | |
| trigger | Indicates the trigger status. |
| forced-reauth | Indicates status of the Diameter credit control pending traffic treatment for forced reauthorization. |
| no-quota | Indicates status of the Diameter credit control pending traffic treatment quota. |
| quota-exhausted | Indicates status of the Diameter credit control pending traffic treatment for exhausted quota. |
| validity-expired | Indicates status of the Diameter credit control pending traffic treatment for validity. |
| Redirection | Indicates whether or not the "user-agent" check in the HTTP header is enabled. |

| Field | Description |
|---|--|
| diameter mscc-final-unit-action terminate | Indicates whether a PDP session or a category is terminated based on the user's quota and Final-Unit-Action (FUA) at Multiple-Services-Credit-Control (MSCC) level. |

show active-charging service-scheme statistics

Table 80: show active-charging service-scheme statistics Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Service-name | The active charging service name. |
| Service-Scheme | The active charging service-scheme name. |
| Total Subscribers | Total number of subscribers configured on the system. |
| Total service scheme(s) found | Total number of configured active charging service-schemes. |

show active-charging sessions all

Table 81: show active-charging sessions all Command Output Descriptions

| Field | Description |
|-----------|---|
| SESSIONID | The active charging session ID. |
| CALLID | The Call ID. |
| IMSI/MSID | Indicates the International Mobile Subscriber Identification/Mobile Station ID. |
| IP | IP address of the client. |
| USERNAME | Name of the subscriber. |
| OC | Indicates the Override Control status as ON or OFF based on whether OC is enabled or disabled for the call. |

show active-charging sessions credit-control server-unreachable

Table 82: show active-charging sessions credit-control server-unreachable Command Output Descriptions

| Field | Description |
|--|---|
| SESSIONID | The active charging session ID. |
| CALLID | The call ID. |
| IMSI/MSID | The International Mobile Subscriber Identification/Mobile Station ID. |
| IP | IP address of client. |
| USERNAME | Name of the subscriber. |
| Total acs sessions matching specified criteria | Total number of ACS sessions with firewall enabled. |

show active-charging sessions firewall required

Table 83: show active-charging sessions firewall required Command Output Descriptions

| Field | Description |
|--|---|
| SESSIONID | The active charging session ID. |
| CALLID | The call ID. |
| IMSI/MSID | The International Mobile Subscriber Identification/Mobile Station ID. |
| IP | IP address of client. |
| USERNAME | Name of the subscriber. |
| Total acs sessions matching specified criteria | Total number of ACS sessions with firewall enabled. |

show active-charging sessions full

Table 84: show active-charging sessions full Command Output Descriptions

| Field | Description |
|------------|---------------------------------|
| Session-ID | The active charging session ID. |

| Field | Description |
|---------------------------|--|
| Username | Name of the subscriber. |
| Callid | The Call ID. |
| IMSI/MSID | Indicates the International Mobile Subscriber Identification/Mobile Station ID. |
| ACSMgr Instance | Total instances of ACS Manager. |
| ACSMgr Card/Cpu | Total number of ACS Manager Card/CPU. |
| Client-IP | In 14.0 and later releases, prefix of IPv6 address or IPv4 address of the client for all call types. In 12.3 and earlier releases, IPv6 address or IPv4 address of the client for all call types. |
| SessMgr Instance | Total instances of Session Manager. |
| NAS-IP | IP address of Network Access Server. |
| NAS-PORT | TCP port of Network Access Server. |
| Access-NAS-IP(FA) | IP address of accessed Network Access Server Foreign Agent (FA). |
| NSAPI | Total instances of NS APIs used. |
| Acct-Session-ID | The accounting session ID. |
| NAS-ID | The Network Access Server ID. |
| Access-NAS-ID(FA) | Accessed Network Access Server Foreign Agent (FA) ID. |
| 3GPP2-BSID | 3GPP2 base station ID. |
| Access-Correlation-ID(FA) | Access correlation ID for FA. |
| 3GPP2-Correlation-ID | Mobile IP Correlation ID. |
| MEID | Mobile equipment's unique Mobile Equipment IDentifier (MEID). |
| Carrier-ID | Carrier or service ID. |
| ESN | Electronic Serial Number (ESN) of mobile equipment. |
| Uplink Bytes | Total bytes uploaded. |
| Downlink Bytes | Total bytes downloaded. |
| Uplink Packets | Total packets uploaded. |
| Downlink Packets | Total packets downloaded. |
| Injected Uplink Bytes | Total bytes injected to upload. |

| Field | Description |
|--------------------------------|---|
| Injected Downlink Bytes | Total bytes injected to download. |
| Injected Uplink Packets | Total packets injected to upload. |
| Injected Downlink Packets | Total packets injected to download. |
| Buffered Uplink Packets | Total buffered packets for uplink. |
| Buffered Downlink Packets | Total buffered packets for downlink. |
| Buffered Uplink Bytes | Total buffered bytes for uplink. |
| Buffered Downlink Bytes | Total buffered bytes for uplink. |
| Uplink Packets in Buffer | Total number of uplink packets in the buffer. |
| Uplink Bytes in Buffer | Total number of uplink bytes in the buffer. |
| Downlink Packets in Buffer | Total number of downlink packets in the buffer. |
| Downlink Bytes in Buffer | Total number of downlink bytes in the buffer. |
| Buff Over-limit Uplink Pkts | Total number of uplink packets that were over the buffer limit. |
| Buff Over-limit Uplink Bytes | Total number of uplink bytes that were over the buffer limit. |
| Buff Over-limit Downlink Pkts | Total number of downlink packets that were over the buffer limit. |
| Buff Over-limit Downlink Bytes | Total number of downlink bytes that were over the buffer limit. |
| Processed Uplink Packets | Total packets processed for upload. |
| Processed Downlink Packets | Total packets processed for download. |
| Dropped Uplink Packets | Total packets dropped in uplink direction. |
| Dropped Downlink Packets | Total packets dropped in downlink direction. |
| Uplink Out of Order Packets | Total out of order packets in uplink direction. |
| Downlink Out of Order Packets | Total out of order packets in downlink direction. |
| ITC Terminated Flows | Total number of flows terminated by Intelligent Traffic Control service. |
| ITC Redirected Flows | Total number of flows redirected by Intelligent Traffic Control service. |
| ITC Dropped Packets | Total number of packets dropped by Intelligent Traffic Control service. |
| ITC ToS Remarketed Packets | Total number of packets marked with Type of Service (ToS) by Intelligent Traffic Control service. |

| Field | Description |
|---------------------------------------|---|
| ITC Dropped Upl Pkts | Total number of packets in uplink direction, that were dropped by Intelligent Traffic Control service. |
| ITC Dropped Dnl Pkts | Total number of packets in downlink direction, that were dropped by Intelligent Traffic Control service. |
| ITC Dropped Upl Bytes | Total number of uplink bytes dropped by Intelligent Traffic Control service. |
| ITC Dropped Dnl Bytes | Total number of downlink bytes dropped by Intelligent Traffic Control service. |
| R7Gx Dropped Upl Packets | Total number of packets dropped by R7Gx in uplink direction. |
| R7Gx Dropped Dnl Packets | Total number of packets dropped by R7Gx in downlink direction. |
| R7Gx Dropped Upl Pkts RuleMatch Fail | Total number of packets dropped by R7Gx in uplink direction due to rulematch failure—no matching rule is found. |
| R7Gx Dropped Upl Bytes RuleMatch Fail | Total number of bytes dropped by R7Gx in uplink direction due to rulematch failure. |
| R7Gx Dropped Dnl Pkts RuleMatch Fail | Total number of packets dropped by R7Gx in downlink direction due to rulematch failure. |
| R7Gx Dropped Dnl Bytes RuleMatch Fail | Total number of bytes dropped by R7Gx in downlink direction due to rulematch failure. |
| CC Dropped Uplink Packets | Total number of packets dropped by credit control in uplink direction. |
| CC Dropped Uplink Bytes | Total number of bytes dropped by credit control in uplink direction. |
| CC Dropped Downlink Packets | Total number of packets dropped by credit control in downlink direction. |
| CC Dropped Downlink Bytes | Total number of bytes dropped by credit control in downlink direction. |
| NRUPC Req Made | Total number of Network Requested Update PDP Context (NRUPC) requests made. |
| NRUPC Req Success | Total number of NRUPC requests succeeded. |
| NRUPC Req Failed | Total number of NRUPC requests failed. |
| NRUPC Req Time Out | Total number of NRUPC requests timed out. |
| Current Readdressed Sessions | Number of current re-addressed sessions |
| Total Readdressed Uplink Pkts | Total number of re-addressed uplink packets. |
| Total Readdressed Uplink Bytes | Total number of re-addressed uplink bytes. |

| Field | Description |
|----------------------------------|---|
| Total Readdressed Downlink Pkts | Total number of re-addressed downlink packets. |
| Total Readdressed Downlink Bytes | Total number of re-addressed downlink bytes. |
| Total Readdressing Failure | Total number re-addressing failures. |
| Creation Time | Time display in UTC format. |
| Last Pkt Time | Time of last packet created. |
| Duration | Duration of session. |
| Active Charging Service name | Name of the active charging service. |
| Rule Base name | Name of the rulebase applied. |
| Bandwidth Policy | The ACS bandwidth policy applicable for subscriber. |
| FW-and-NAT Policy | The Stateful Firewall-and-NAT policy applicable for subscriber. |
| Firewall Policy IPv4 | Indicates whether Stateful Firewall IPv4 processing is required for subscriber. |
| Firewall Policy IPv6 | Indicates whether Stateful Firewall IPv6 processing is required for subscriber. |
| NAT Policy | Indicates whether NAT processing is required for subscriber. |
| NAT Policy NAT44 | Indicates whether NAT44 is enabled or disabled for the subscriber. |
| NAT Policy NAT64 | Indicates whether NAT64 is enabled or disabled for the subscriber. |
| Bypass NAT Flow Present | Indicates whether bypass NAT flow is present or not. |
| TPO Policy | Important The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |
| CF Policy ID | The content filtering policy identifier applicable for subscriber. |
| Dynamic Charging | Status of dynamic charging functionality. |
| Dynamic Chrg Msg Received | Total number of messages received for dynamic charging. |
| Rule Definitions Received | Total number of ruledefs received. |
| Installs Received | Total number of "Charging-Rule-Install" messages received. |
| Removes Received | Total number of "Charging-Rule-Remove" messages received. |
| Installs Succeeded | Total number of charging rules installed successfully. |
| Installs Failed | Total number of charging rules installation failed. |
| Removes Succeeded | Total number of charging rules removed successfully. |

| Field | Description |
|-------------------------------------|---|
| Removes Failed | Total number of charging rules removal failed. |
| Uplink Dynamic Rule Packets | Total number of packets uplinked with dynamic rules. |
| Uplink Dynamic Rule Bytes | Total number of bytes uplinked with dynamic rules. |
| Downlink Dynamic Rule Packets | Total number of packets downlinked with dynamic rules. |
| Downlink Dynamic Rule Bytes | Total number of bytes downlinked with dynamic rules. |
| Credit-Control | Displays the status of DCCA (on/off). Important Credit-Control state will be displayed as "Pending CCR-Event" when the session is waiting for a CCA-Event message. If there are no pending CCA-Event messages then Credit-Control state will be displaying the string "Event-Based-Charging". |
| Event-Triggers | Indicates the configured credit control reauthorization event triggers. Important This field will appear when Event-Based-Gy session is active. |
| CC Peer | Name of the credit control (CC) peer. |
| CC Group | Displays the selected credit control group information. |
| CC Mode | Indicates the credit control mode: RADIUS or DIAMETER |
| CC Failure Handling | Action configured for credit control failure handling. |
| CC Session Failover | Credit control session failover status. |
| CCR-I Server Unreachable Handling | Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| CCR-U Server Unreachable Handling | Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| Total CCR-U | The total number of CCR-Updates (Credit Control Request with Update) messages sent to the credit control server. |
| Last State Change Time: | |
| Offline/Online | Indicates the state transition timestamp. The Offline timestamp is updated when the Gy session goes Offline. The Online timestamp is updated when the Gy session goes Online. |
| Total Server Unreachable States Hit | Indicates the total number of sessions that are in server unreachable state. |

| Field | Description |
|---|--|
| Tx-Expiry | Indicates the number of sessions that are in server unreachable state due to Tx expiry. |
| Response-TimeOut | Indicates the number of sessions that are in server unreachable state due to response timeout. |
| Connection-Failure | Indicates the number of sessions that are in server unreachable state due to connection failure. |
| Result-Code Based | Indicates the number of sessions that are in server unreachable state based on the result codes. |
| Current Server Unreachable State | Indicates that the Diameter server(s)/OCS are unreachable. |
| Interim Volume in Bytes (used / allotted) | Indicates how much of data volume has been currently consumed and the total allocated value. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again. |
| Interim Time in Seconds (used / allotted) | Indicates how much of time has been used up and the total allocated time. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again. |
| Server Retries (attempted / configured) | Indicates the total number of retries that were configured and attempted to the Diameter server during the Server-Unreachable-State. |
| Server Unreachable Reason | Indicates the reason for which server-unreachable condition was hit lastly. |
| Current TCP Proxy Flows | Total number of current TCP Proxy flows for the session. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Total TCP Proxy Flows | Total number of TCP Proxy flows for the session. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| TCP-proxy reset for non-SYN flows | Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|----------------------|--|
| Current IP Flows | Total number of current IP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current ICMP Flows | Total number of current ICMP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current IPv6 Flows | Total number of current IPv6 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current ICMPv6 Flows | Total number of current ICMPv6 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current TCP Flows | Total number of current TCP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current UDP Flows | Total number of current UDP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current HTTP Flows | Total number of current HTTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current HTTPS Flows | Total number of current HTTPS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|--------------------|--|
| Current FTP Flows | Total number of current FTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current POP3 Flows | Total number of current POP3 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current SMTP Flows | Total number of current SMTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current SIP Flows | Total number of current SIP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTSP Flows | Total number of current RTSP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTP Flows | Total number of current RTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTCP Flows | Total number of current RTCP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current IMAP Flows | Total number of current IMAP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|------------------------|--|
| Current WSP-CO Flows | Total number of current WSP-CO flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current WSP-CL Flows | Total number of current WSP-CL flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current MMS Flows | Total number of current MMS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current DNS Flows | Total number of current DNS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current PPTP-GRE Flows | Total number of current PPTP-GRE flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current PPTP Flows | Total number of current PPTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current TFTP Flows | Total number of current TFTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current P2P Flows | Total number of current P2P flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|---|--|
| Current H323 Flows | Total number of current H323 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current UNKNOWN Flows | Total number of current UNKNOWN flows. |
| Max (L3) Flows | The maximum number of simultaneous L3 flows seen by the session. |
| Max Flows Timestamp | Lists the date and time at which the L3 flows were seen. |
| CAE-Readdressing: | |
| GET Requests redirected | Total number of HTTP GET requests redirected to a CAE. |
| POST Requests redirected | Total number of HTTP POST requests redirected to a CAE. |
| Other Requests redirected | Total number of other HTTP requests redirected to a CAE. |
| HTTP Responses redirected | Total number of HTTP responses redirected to a CAE. |
| Requests having xheader inserted | Total number of HTTP requests that have x-headers inserted. |
| Total connection failed to video server | Total number of failed connections to the video server. |
| Total uplink Bytes | Total number of uplink bytes. |
| Total uplink Packets | Total number of uplink packets. |
| Total downlink Bytes | Total number of downlink bytes. |
| Total downlink Packets | Total number of downlink packets. |
| Rating-Group | Rating-Group of the MSCC which is used by DCCA. |
| Service-Identifier | Service-Identifier of the MSCC which is used by DCCA |
| State | State in which the MSCC (identified by Rating-Group and Service-Identifier) is present. For example, Charging, Limit-Reached, Rating-Failed |
| Checkpoint State | Checkpoint status of the MSCC. It can be either Current or Outdated. Current implies that the MSCC is checkpointed recently. Outdated means the MSCC is ready to get checkpointed to update its new status. |
| Pending Update | This indicates whether a response is awaited from the server for this MSCC, after sending a CCR-U. |

| Field | Description |
|---------------------------|--|
| Accelerated | This indicates whether or not the MSCC supports acceleration. The Accelerated status of MSCC will only be visible if the chassis has license for the Flow Aware Packet Acceleration (FAPA) feature. |
| Last Answer | Time duration from the last sent CCR-Update request for this MSCC. |
| Backpressured | Shows how many times the category (Rating-Group) is subsequently moving into backpressured (unable to send message due to message queue being full) state while sending a CCR-U. The maximum count value that can be supported is 15. Once the messages are sent successfully, this counter will be reset to 0 and this field will not be displayed in the output. |
| Ruledef Name | Name of the ACS ruledef. |
| Pkts-Down | Total number of packets downlinked. |
| Bytes-Down | Total number of bytes downlinked. |
| Pkts-Up | Total number of packets uplinked. |
| Bytes-Up | Total number of bytes uplinked. |
| Hits | Total number of packets handled in uplink and downlink directions. |
| Match-Bypassed | Total number of rule-match request bypassed. |
| Post-processing Rulestats | |
| Ruledef Name | Name of the ACS ruledef. |
| Pkts-Down | Total number of packets downlinked. |
| Bytes-Down | Total number of bytes downlinked. |
| Pkts-Up | Total number of packets uplinked. |
| Bytes-Up | Total number of bytes uplinked. |
| Hits | Total number of packets handled in uplink and downlink directions. |
| Firewall-Ruledef Name | Name of the Stateful Firewall ruledef. |
| Pkts-Down | Total number of packets downlinked. |
| Bytes-Down | Total number of bytes downlinked. |
| Pkts-Up | Total number of packets uplinked. |

| Field | Description |
|--|---|
| Bytes-Up | Total number of bytes uplinked. |
| Hits | Total number of packets handled in uplink and downlink directions. |
| Dynamic Charging Rule Name Statistics | Dynamic charging rule name statistics. |
| Dynamic Charging Rule Name Configured | Dynamic charging rule name configured. |
| Predefined Rules Enabled List | List of enabled predefined rules. |
| Predefined Firewall Rules Enabled List | List of enabled predefined Firewall rules. |
| NCQoS NRUPC Req Made | Total number of network-controlled QoS Network Requested Update PDP Context requests made. |
| NCQoS NRSPCA Req Made | Total number of network-controlled QoS Network Requested Secondary PDP Context Activation requests made. |
| NCQoS NRUPC Req Failed | Total number of network-controlled QoS Network Requested Update PDP Context requests failed. |
| NCQoS NRSPCA Req Failed | Total number of network-controlled QoS Network Requested Secondary PDP Context Activation requests failed. |
| NCQoS NRUPC Req Success | Total number of network-controlled QoS Network Requested Update PDP Context requests succeeded. |
| NCQoS NRSPCA Req Success | Total number of network-controlled QoS Network Requested Secondary PDP Context Activation requests succeeded. |
| Total acs sessions matching specified criteria | Total number of ACS sessions matching the specified criteria. |

show active-charging sessions full all

Table 85: show active-charging sessions full all Command Output Descriptions

| Field | Description |
|-----------------|---|
| Session-ID | The active charging session ID. |
| Username | The subscriber's name. |
| Callid | Call identification. |
| IMSI/MSID | The International Mobile Subscriber Identification/Mobile Station ID. |
| ACSMgr Instance | Total instance of ACS Manager. |

| Field | Description |
|---------------------------|--|
| ACSMgr Card/Cpu | Total number of ACS Manager Card/CPU. |
| SessMgr Instance | Total instance of session manager. |
| Client-IP | In 14.0 and later releases, prefix of IPv6 address or IPv4 address of the client for all call types. In 12.3 and earlier releases, IPv6 address or IPv4 address of the client for all call types. |
| NAS-IP | Indicates the IP address of Network Access Server. |
| Access-NAS-IP(FA) | Indicates the IP address of accessed Network Access Server Foreign Agent (FA). |
| NAS-PORT | Indicates the TCP port of Network Access Server. |
| NSAPI | Total instances of NS APIs used. |
| Acct-Session-ID | Indicates the accounting session ID. |
| NAS-ID | The Network Access Server identifier. |
| Access-NAS-ID(FA) | Indicates the identifier of accessed Network Access Server Foreign Agent (FA). |
| 3GPP2-BSID | Indicates the 3GPP2 base station identifier. |
| Access-Correlation-ID(FA) | Indicates the access correlation ID for FA. |
| 3GPP2-Correlation-ID | Indicates the Mobile IP Correlation ID. |
| MEID | Indicates the Mobile equipment's unique Mobile Equipment Identifier (MEID). |
| Carrier-ID | Indicates the carrier or service ID. |
| PCO: Value/Interface | Specifies the last updated PCO value and the interface it is configured for. |
| ESN | Indicates the Electronic Serial Number (ESN) of mobile equipment. |
| Enterprise ID | A 24-bit integer value, PCRF sends Enterprise ID that is associated with the user to the gateway during call setup. This field is required for identifying traffic based on NSH. |
| Uplink Bytes | Total bytes uploaded. |
| Downlink Bytes | Total bytes downloaded. |
| Uplink Packets | Total packets uploaded. |
| Downlink Packets | Total packets downloaded. |

| Field | Description |
|---|---|
| Injected Uplink Bytes | Total bytes injected to upload. |
| Injected Downlink Bytes | Total bytes injected to download. |
| Injected Uplink Packets | Total packets injected to upload. |
| Injected Downlink Packets | Total packets injected to download. |
| Buffered Uplink Packets | Total buffered packets for uplink. |
| Buffered Downlink Packets | Total buffered packets for downlink. |
| Buffered Uplink Bytes | Total buffered bytes for uplink. |
| Buffered Downlink Bytes | Total buffered bytes for uplink. |
| Uplink Packets in Buffer | Total number of uplink packets in the buffer. |
| Uplink Bytes in Buffer | Total number of uplink bytes in the buffer. |
| Downlink Packets in Buffer | Total number of downlink packets in the buffer. |
| Downlink Bytes in Buffer | Total number of downlink bytes in the buffer. |
| Buff Over-limit Uplink Pkts | Total number of uplink packets that were over the buffer limit. |
| Buff Over-limit Uplink Bytes | Total number of uplink bytes that were over the buffer limit. |
| Buff Over-limit Downlink Pkts | Total number of downlink packets that were over the buffer limit. |
| Buff Over-limit Downlink Bytes | Total number of downlink bytes that were over the buffer limit. |
| Processed Uplink Packets | Total packets processed for upload. |
| Processed Downlink Packets | Total packets processed for download. |
| In Releases prior to 20: Dropped Uplink Packets | Total packets dropped in uplink direction. In Release 20 and beyond, this statistic is replaced by DCCA Buffered Packet Drops Uplink. |
| In Releases prior to 20: Dropped Downlink Packets | Total packets dropped in downlink direction. In Release 20 and beyond, this statistic is replaced by DCCA Buffered Packet Drops Downlink. |
| DCCA Buffered Packet Drops | |
| Uplink | Total number of packets dropped in uplink direction due to rule failure for DCCA buffered packets. |
| Downlink | Total number of packets dropped in downlink direction due to rule failure for DCCA buffered packets. |
| Uplink Out of Order Packets | Total out of order packets in uplink direction. |

| Field | Description |
|---------------------------------------|---|
| Downlink Out of Order Packets | Total out of order packets in downlink direction. |
| ITC Terminated Flows | Total number of flows terminated by Intelligent Traffic Control service. |
| ITC Redirected Flows | Total number of flows redirected by Intelligent Traffic Control service. |
| ITC Dropped Packets | Total number of packets dropped by Intelligent Traffic Control service. |
| ITC ToS Remarketed Packets | Total number of packets marked with Type of Service (ToS) by Intelligent Traffic Control service. |
| R7Gx Dropped Upl Packets | Total number of packets dropped by R7Gx in uplink direction. |
| R7Gx Dropped Dnl Packets | Total number of packets dropped by R7Gx in downlink direction. |
| R7Gx Dropped Upl Pkts RuleMatch Fail | Total number of packets dropped by R7Gx in uplink direction due to rulematch failure—no matching rule is found. |
| R7Gx Dropped Upl Bytes RuleMatch Fail | Total number of bytes dropped by R7Gx in uplink direction due to rulematch failure. |
| R7Gx Dropped Dnl Pkts RuleMatch Fail | Total number of packets dropped by R7Gx in downlink direction due to rulematch failure. |
| R7Gx Dropped Dnl Bytes RuleMatch Fail | Total number of bytes dropped by R7Gx in downlink direction due to rulematch failure. |
| CC Dropped Uplink Packets | Total number of packets dropped by credit control in uplink direction. |
| CC Dropped Uplink Bytes | Total number of bytes dropped by credit control in uplink direction. |
| CC Dropped Downlink Packets | Total number of packets dropped by credit control in downlink direction. |
| CC Dropped Downlink Bytes | Total number of bytes dropped by credit control in downlink direction. |
| NRUPC Req Made | Total number of Network Requested Update PDP Context (NRUPC) requests made. |
| NRUPC Req Success | Total number of NRUPC requests succeeded. |
| NRUPC Req Failed | Total number of NRUPC requests failed. |
| NRUPC Req Time Out | Total number of NRUPC requests timed out. |
| Current Readdressed Sessions | Total number of current readdressed sessions. |
| Total Readdressed Uplink Pkts | Total number of readdressed uplink packets. |

| Field | Description |
|--------------------------------------|---|
| Total Readdressed Uplink Bytes | Total number of readdressed uplink bytes. |
| Total Readdressed Downlink Pkts | Total number of readdressed downlink packets. |
| Total Readdressed Downlink Bytes | Total number of readdressed downlink bytes. |
| Total Readdressing Failure Packets | Total number of packets with readdressing failures. |
| Non SYN Flow | Total number of readdressing packets with a non SYN flow failure. |
| Duplicate Key | Total number of readdressing packets with a duplicate key failure. |
| Dropped Pkts | Total number of packets discarded on readdressing failure. If the discard-on-failure option is not enabled using the flow action readdress command, this value will be zero. |
| Creation Time | Time display in UTC format. |
| Last Pkt Time | Time of last packet created. |
| Duration | Duration of session. |
| Active Charging Service name | Name of the Active Charging Service. |
| Rule Base name | Name of the ACS rulebase applied. |
| URL-Redir First-Request-Only | Specifies whether URL redirection for the first request only is enabled. |
| Tethering-detection notification | Indicates whether tethering detection notification is enabled or disabled. |
| Tethering-detected notification sent | Indicates wheter tethering detection notification is sent (Yes, No, or n/a) |
| Bandwidth Policy | The ACS bandwidth policy applicable for subscriber. |
| Firewall Policy | Indicates whether Stateful Firewall processing is required for subscriber. |
| FW-and-NAT Policy | The Stateful Firewall-and-NAT policy applicable for subscriber. |
| NAT Policy | Indicates whether NAT processing is required for subscriber. |
| TPO Policy | Important The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |
| CF Policy ID | The Content Filtering policy ID applicable for subscriber. |
| Dynamic Charging | Status of dynamic charging functionality. |
| Dynamic Chrg Msg Received | Total number of messages received for dynamic charging. |

| Field | Description |
|--|--|
| Rule Definitions Received | Total number of ruledefs received. |
| Installs Received | Total number of "Charging-Rule-Install" messages received. |
| Removes Received | Total number of "Charging-Rule-Remove" messages received. |
| Installs Succeeded | Total number of charging rules installed successfully. |
| Installs Failed | Total number of charging rules installation failed. |
| Removes Succeeded | Total number of charging rules removed successfully. |
| Removes Failed | Total number of charging rules removal failed. |
| Override Control | |
| Installs Received | Total number of overrides received. |
| Installs Succeeded | Total number of overrides that were succeeded. |
| Installs Failed | Total number of overrides that were failed. |
| Disables Received | Total number of disable overrides received for a specific call. |
| Disables Succeeded | Total number of disable overrides succeeded for a specific call. |
| Disables Failed | Total number of disable overrides failed for a specific call. |
| Uplink Dynamic Rule Packets | Total number of packets uplinked with dynamic rules. |
| Uplink Dynamic Rule Bytes | Total number of bytes uplinked with dynamic rules. |
| Downlink Dynamic Rule Packets | Total number of packets downlinked with dynamic rules. |
| Downlink Dynamic Rule Bytes | Total number of bytes downlinked with dynamic rules. |
| Dynamic Charging Packet Drop Statistics | |
| Bearer BW Limit Upl Pkts | Total number of uplink packets dropped due to bearer bandwidth limiting. |
| Bearer BW Limit Dnl Pkts | Total number of downlink packets dropped due to bearer bandwidth limiting. |
| Bearer BW Limit Upl Bytes | Total number of uplink bytes dropped due to bearer bandwidth limiting. |
| Bearer BW Limit Dnl Bytes | Total number of downlink bytes dropped due to bearer bandwidth limiting. |
| PCC Rule BW Limit Upl Pkts | Total number of uplink packets dropped due to PCC rule bandwidth limiting. |

| Field | Description |
|---|--|
| PCC Rule BW Limit Dnl Pkts | Total number of downlink packets dropped due to PCC rule bandwidth limiting. |
| PCC Rule BW Limit Upl Bytes | Total number of uplink bytes dropped due to PCC rule bandwidth limiting. |
| PCC Rule BW Limit Dnl Bytes | Total number of downlink bytes dropped due to PCC rule bandwidth limiting. |
| PCC Rule Gating Upl Pkts | Total number of uplink packets dropped due to PCC rule gating. |
| PCC Rule Gating Dnl Pkts | Total number of downlink packets dropped due to PCC rule gating. |
| PCC Rule Gating Upl Bytes | Total number of uplink bytes dropped due to PCC rule gating. |
| PCC Rule Gating Dnl Bytes | Total number of downlink bytes dropped due to PCC rule gating. |
| RuleMatch Fail Upl Pkts | Total number of uplink packets dropped due to rule match failure. |
| RuleMatch Fail Dnl Pkts | Total number of downlink packets dropped due to rule match failure. |
| RuleMatch Fail Upl Bytes | Total number of uplink bytes dropped due to rule match failure. |
| RuleMatch Fail Dnl Bytes | Total number of downlink bytes dropped due to rule match failure. |
| Credit-Control | Indicates DCCA status: On/Off |
| CC Peer | Name of the credit control (CC) peer. |
| CC Group | Displays the selected credit control group information. |
| CC Mode | Indicates the credit control mode: RADIUS or DIAMETER |
| CC Failure Handling | Action configured for credit control failure handling. |
| CC Session Failover | Credit control session failover status. |
| CCR-I Server Unreachable Handling | Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| CCR-U Server Unreachable Handling | Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable. |
| Total CCR-U | The total number of CCR-Updates (Credit Control Request with Update) messages sent to the credit control server. |
| Current Server Unreachable State | Indicates that the Diameter server(s)/OCS are unreachable. |
| Interim Volume in Bytes (used / allotted) | Indicates how much of data volume has been currently consumed and the total allocated value. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again. |

| Field | Description |
|---|--|
| Interim Time in Seconds (used / allotted) | Indicates how much of time has been used up and the total allocated time. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again. |
| Server Retries (attempted / configured) | Indicates the total number of retries that were configured and attempted to the Diameter server during the Server-Unreachable-State. |
| Current TCP Proxy Flows | Total number of current TCP Proxy flows for the session. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Total TCP Proxy Flows | Total number of TCP Proxy flows for the session. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| TCP-proxy reset for non-SYN flows | Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current IP Flows | Total number of current IP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current ICMP Flows | Total number of current ICMP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current IPv6 Flows | Total number of current IPv6 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current ICMPv6 Flows | Total number of current ICMPv6 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|---------------------|---|
| Current MIPv6 Flows | Total number of current MIPv6 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current TCP Flows | Total number of current TCP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current UDP Flows | Total number of current UDP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current HTTP Flows | Total number of current HTTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current HTTPS Flows | Total number of current HTTPS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current FTP Flows | Total number of current FTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current POP3 Flows | Total number of current POP3 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current SMTP Flows | Total number of current SMTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|----------------------|--|
| Current SIP Flows | Total number of current SIP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTSP Flows | Total number of current RTSP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTP Flows | Total number of current RTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current RTCP Flows | Total number of current RTCP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current IMAP Flows | Total number of current IMAP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current WSP-CO Flows | Total number of current WSP-CO flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current WSP-CL Flows | Total number of current WSP-CL flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current MMS Flows | Total number of current MMS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |

| Field | Description |
|---------------------------|--|
| Current DNS Flows | Total number of current DNS flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current PPTP-GRE Flows | Total number of current PPTP-GRE flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current PPTP Flows | Total number of current PPTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current P2P Flows | Total number of current P2P flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current H323 Flows | Total number of current H323 flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current TFTP Flows | Total number of current TFTP flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| Current UNKNOWN Flows | Total number of current UNKNOWN flows. Important This statistic is removed from this command in 18.0 and later releases, and available in the show active-charging subscribers full all command. |
| CAE-Readdressing: | |
| GET Requests redirected | Total number of HTTP GET requests redirected to a CAE. |
| POST Requests redirected | Total number of HTTP POST requests redirected to a CAE. |
| Other Requests redirected | Total number of other HTTP requests redirected to a CAE. |
| HTTP Responses redirected | Total number of HTTP responses redirected to a CAE. |

| Field | Description |
|--|---|
| Requests having xheader inserted | Total number of HTTP requests that have x-headers inserted. |
| Total connection failed to video server | Total number of failed connections to the video server. |
| Total uplink Bytes | Total number of uplink bytes. |
| Total uplink Packets | Total number of uplink packets. |
| Total downlink Bytes | Total number of downlink bytes. |
| Total downlink Packets | Total number of downlink packets. |
| STATIC CF STATISTICS | |
| CF Packets Allowed | Total number of packets allowed after applying content filtering service. NOTE: This statistic has been renamed to Flows Allowed in 12.0 and later releases. |
| CF Packets Discarded without Responding | Total number of packets discarded without sending any response after applying content filtering service. NOTE: This statistic has been renamed to Flows Discarded in 12.0 and later releases. |
| CF Packets Discarded with Flow Redirection | Total number of packets discarded with traffic flow redirection after applying content filtering service. NOTE: This statistic has been renamed to Flows Redirected in 12.0 and later releases. |
| CF Packets Discarded with Flow Termination | Total number of packets discarded and traffic flow terminated after applying content filtering service. NOTE: This statistic has been renamed to Flows Terminated in 12.0 and later releases. |
| CF Packets Discarded with Flow Content Insertion | Total number of packets discarded and content inserted in response message after applying content filtering service. NOTE: This statistic has been renamed to Flows Discarded with Content Insertion in 12.0 and later releases. |
| CF Static DB Look-ups | Total number of lookups in static rating database for content filtering service. |
| CF Successful Cache Look-ups | Total number of lookups in cache memory for static rating of URLs and returned successful after applying content filtering service. |
| DYNAMIC CF STATISTICS | |

| Field | Description |
|---|---|
| Flows Allowed | Total number of flows allowed by dynamic CF. Typically a flow is allowed if the matched flow category contains the action "allow" in the CF configuration. |
| Flows Discarded | Total number of flows discarded by dynamic CF. |
| Flows Redirected | Total number of flows redirected by dynamic CF. |
| Flows Terminated | Total number of flows terminated by dynamic CF. |
| Flows Discarded with Content Insertion | Total number of flows discarded with content insertion by dynamic CF. |
| CF Dynamic Lookups | Total number of lookups in dynamic rating database for content filtering service. |
| Charging ruledef(s) matching the specified criteria | Charging ruledef(s) matching the specified criteria. |
| Firewall ruledef(s) match the specified criteria | Stateful Firewall ruledef(s) matching the specified criteria. |
| Dynamic Charging Rule Name Statistics | Dynamic charging rule name statistics. |
| Total Dynamic Rules | Total number of dynamic rules. |
| Total L7 Dynamic Rules | Total number of L7 dynamic rules sent from PCRF. |
| Total Predefined Rules | Total number of predefined rules. |
| Total ADC Rules | Total number of ADC rules (ADC Predefined + ADC Dynamic Rules). |
| Total Firewall Predefined Rules | Total number of Stateful Firewall predefined rules. |
| Dynamic Charging Rule Definitions Configured | Dynamic charging rules configured. |
| Rule Parameters | Displays the values for the following parameters: <ul style="list-style-type: none"> • TDF Application Id: ADC Application Identifier. The name of the ruledef given in the PCRF/Gx configuration. • TDF Readdress Status: ADC Readdress status enabled/disabled. • TDF Readdress IP: Displayed only when Readdress status is enabled. • TDF Redirect URL: Displayed only when the redirect to URL is given in the PCRF/Gx configuration. Either readdress or redirect information is displayed. • TDF Custom-mute: Enabled/Disabled |
| Total Dynamic Charging Rule Names | Total number of dynamic charging rules. |
| Total Dynamic Firewall Rule Names | Total number of dynamic Stateful Firewall rules. |

| Field | Description |
|--|--|
| Inheritance is disabled for this subscriber - Error! | This field is displayed if rule information has inheritance parameters but the subscriber-level information does not have inheritance enabled. |
| Predefined Rules Enabled List | List of enabled predefined rules. |
| Predefined Firewall Rules Enabled List | List of enabled predefined Firewall rules. |
| Total Override Control | Total number of overrides that are currently active for the subscriber. |
| Total acs sessions matching specified criteria | Total number of ACS sessions matching the specified criteria. |
| Radio-Congestion Session Full Stats | |
| Last Reported Congestion Level | Indicates the last reported congestion level. |
| Total Flows Analyzed | Total number of flows analyzed. |
| Total Flows Eligible for Correlation | Total number of flows eligible for correlation. |
| Radio-Congestion Session Last Reported Stats | |
| Total Flows Analyzed | Total number of flows analyzed. |
| Total Flows Eligible for Correlation | Total number of flows eligible for correlation. |
| Total Flows with Congestion Level | Total number of flows with congestion level. |
| no Congestion | Total number of flows with no congestion. |
| low Congestion | Total number of flows with low congestion. |
| medium Congestion | Total number of flows with medium congestion. |
| high Congestion | Total number of flows with high congestion. |
| extreme Congestion | Total number of flows with extreme congestion. |
| Link Monitoring Average Throughput | The average link monitoring throughput, in kbps. |
| Link Monitoring Average RTT | The average link monitoring RTT (Round Trip Time), in milliseconds. |

show active-charging sessions summary

Table 86: show active-charging sessions summary Command Output Descriptions

| Field | Description |
|------------|---------------------------------|
| Session-ID | The active charging session ID. |

| Field | Description |
|-------------------------------|---|
| Username | Name of the subscriber. |
| Callid | Call identification. |
| IMSI/MSID | Indicates the International Mobile Subscriber Identification / Mobile Station ID. |
| ACSMgr Instance | Total instance of ACS Manager. |
| ACSMgr Card/Cpu | Total number of ACS Manager Card/CPU. |
| Client-IP | Indicates the IP address of Client. |
| SessMgr Instance | Total instance of session manager. |
| NAS-IP | Indicates the IP address of Network Access Server. |
| NAS-PORT | Indicates the TCP port of Network Access Server. |
| Access-NAS-IP(FA) | Indicates the IP address of accessed Network Access Server Foreign Agent (FA). |
| Acct-Session-ID | Indicates the accounting session ID. |
| 3GPP2-Correlation-ID | Indicates the Mobile IP Correlation ID. |
| Access-Correlation-ID(FA) | Indicates the access correlation ID for FA. |
| MEID | Indicates the Mobile equipment's unique Mobile Equipment Identifier (MEID). |
| Carrier-ID | Indicates the Carrier or service ID. |
| ESN | Indicates the Electronic Serial Number (ESN) of mobile equipment. |
| Uplink Bytes | Total bytes uploaded. |
| Downlink Bytes | Total bytes downloaded. |
| Uplink Packets | Total packets uploaded. |
| Downlink Packets | Total packets downloaded. |
| Injected Uplink Bytes | Total bytes injected to upload. |
| Injected Downlink Bytes | Total bytes injected to download. |
| Injected Uplink Packets | Total packets injected to upload. |
| Injected Downlink Packets | Total packets injected to download. |
| Uplink Out of Order Packets | Total out of order packets in uplink direction. |
| Downlink Out of Order Packets | Total out of order packets in downlink direction. |

| Field | Description |
|------------------------------|---|
| Creation Time | Time display in UTC format. |
| Last Pkt Time | Time of last packet created. |
| Duration | Duration of session. |
| Active Charging Service name | Name of the ACS service. |
| Rule Base name | Name of the rulebase applied. |
| Credit-Control | DCCA status: On/Off |
| CC peer | Name of the Credit Control (CC) peer. |
| CC Failure Handling | Action configured to handle CC failure. |
| CC Session Failover | CC Session Failover status. |
| Rating-Group | Rating-Group of the MSCC which is used by DCCA |
| State | State in which the MSCC (identified by Rating-Group and Service-Identifier) is present. For example, Charging, Limit-Reached, Rating-Failed, etc. |
| Pending Update | This indicates whether a response is awaited from the server for this MSCC, after sending a CCR-U. |
| Last CCA | Time duration from the last sent CCR-Update request for this MSCC. |
| Time Threshold | Threshold for CC. |
| Quota | Quota assigned for pre-paid subscriber. |
| Usage | Usage by subscriber. |
| Ruledef Name | Name of the Ruledef. |
| Pkts-Down | Total packets in downlink direction. |
| Bytes-Down | Total byte in downlink direction. |
| Pkts-Up | Total Packets in upward direction. |
| Bytes-Up | Total bytes in upward direction. |
| Hits | Total packets in upload and download direction. |
| Current IP Sessions | Total number of current IP sessions. |
| Current ICMP Sessions | Total number of current ICMP sessions. |
| Current IPv6 Sessions | Total number of current IPv6 sessions. |
| Current ICMPv6 Sessions | Total number of current ICMPv6 sessions. |

| Field | Description |
|---|---|
| Current TCP Sessions | Total number of current TCP sessions. |
| Current UDP Sessions | Total number of current UDP sessions. |
| Current HTTP Sessions | Total number of current HTTP sessions. |
| Current HTTPS Sessions | Total number of current HTTPS sessions. |
| Current FTP Sessions | Total number of current FTP sessions. |
| Current POP3 Sessions | Total number of current POP3 sessions. |
| Current SMTP Sessions | Total number of current SMTP sessions. |
| Current SIP Sessions | Total number of current SIP sessions. |
| Current RTSP Sessions | Total number of current RTSP sessions. |
| Current RTP Sessions | Total number of current RTP sessions. |
| Current RTCP Sessions | Total number of current RTCP sessions. |
| Current IMAP Sessions | Total number of current IMAP sessions. |
| Current WSP-CO Sessions | Total number of current WSP-CO sessions. |
| Current WSP-CL Sessions | Total number of current WSP-CL sessions. |
| Current MMS Sessions | Total number of current MMS sessions. |
| Current DNS Sessions | Total number of current DNS sessions. |
| Current PPTP Sessions | Total number of current PPTP sessions. |
| Current PPTP-GRE Sessions | Total number of current PPTP-GRE sessions. |
| Current P2P Sessions | Total number of current P2P sessions. |
| Current H323 Sessions | Total number of current H323 sessions. |
| Current TFTP Sessions | Total number of current TFTP sessions. |
| Current UNKNOWN Sessions | Total number of current UNKNOWN sessions. |
| Current SKYPE Sessions | Total number of current SKYPE sessions. |
| Current YAHOO Sessions | Total number of current YAHOO sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current SKYPE voice Sessions | Total number of current SKYPE voice sessions. |
| Current YAHOO voice Sessions | Total number of current YAHOO voice sessions. |
| Current SKYPE non-voice Sessions | Total number of current SKYPE non-voice sessions. |

| Field | Description |
|---|--|
| Current YAHOO non-voice Sessions | Total number of current YAHOO non-voice sessions. |
| Important The following two audio counters are available only for 11.0 and later releases. | |
| Current SKYPE Audio Sessions | Total number of current SKYPE audio sessions. |
| Current YAHOO Audio Sessions | Total number of current YAHOO audio sessions. |
| Current YAHOO Video Sessions | Total number of current YAHOO video sessions. |
| Current SKYPE Unclassified Sessions | Total number of current SKYPE Unclassified sessions. |
| Current SKYPE Voipout Sessions | Total number of current SKYPE Voipout sessions. |
| Current EDONKEY Sessions | Total number of current EDONKEY sessions. |
| Current ORB Sessions | Total number of current ORB sessions. |
| Current MSN Sessions | Total number of current MSN sessions. |
| Current GNUTELLA Sessions | Total number of current GNUTELLA sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current MSN voice Sessions | Total number of current MSN voice sessions. |
| Current MSN non-voice Sessions | Total number of current MSN non-voice sessions. |
| Current BITTORRENT Sessions | Total number of current BITTORRENT sessions. |
| Important The following audio/video counters are available only for 11.0 and later releases. | |
| Current MSN Audio Sessions | Total number of current MSN audio sessions. |
| Current MSN Video Sessions | Total number of current MSN video sessions. |
| Current SLINGBOX Sessions | Total number of current SLINGBOX sessions. |
| Current JABBER Sessions | Total number of current JABBER sessions. |
| Current WINNY Sessions | Total number of current WINNY sessions. |
| Current MANOLITO Sessions | Total number of current MANOLITO sessions. |
| Current PANDO Sessions | Total number of current PANDO sessions. |
| Current FILETOPIA Sessions | Total number of current FILETOPIA sessions. |
| Current SOULSEEK Sessions | Total number of current SOULSEEK sessions. |
| Current PPSTREAM Sessions | Total number of current PPSTREAM sessions. |
| Current QQ Sessions | Total number of current QQ sessions. |

| Field | Description |
|---|---|
| Current QQ Audio Sessions | Total number of current QQ audio sessions. |
| Current QQ Video Sessions | Total number of current QQ video sessions. |
| Current QQLIVE Sessions | Total number of current QQLIVE sessions. |
| Current IMESH Sessions | Total number of current IMESH sessions. |
| Current MUTE Sessions | Total number of current MUTE sessions. |
| Current PPLIVE Sessions | Total number of current PPLIVE sessions. |
| Current GADUGADU Sessions | Total number of current GADUGADU sessions. |
| Current FEIDIAN Sessions | Total number of current FEIDIAN sessions. |
| Current APPLEJUICE Sessions | Total number of current APPLEJUICE sessions. |
| Current fastrack Sessions | Total number of current Fastrack sessions. |
| Current ZATTOO Sessions | Total number of current ZATTOO sessions. |
| Current SKINNY Sessions | Total number of current SKINNY sessions. |
| Current SOPCAST Sessions | Total number of current SOPCAST sessions. |
| Current DIRECTCONNECT Sessions | Total number of current DIRECTCONNECT sessions. |
| Current ARES Sessions | Total number of current ARES sessions. |
| Current OSCAR Sessions | Total number of current OSCAR sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current OSCAR voice Sessions | Total number of current OSCAR voice sessions. |
| Current OSCAR non-voice Sessions | Total number of current OSCAR non-voice sessions. |
| Important The following two counters are available only for 11.0 and later releases. | |
| Current OSCAR Audio Sessions | Total number of current OSCAR audio sessions. |
| Current OSCAR Video Sessions | Total number of current OSCAR video sessions. |
| Current POPO Sessions | Total number of current POPO sessions. |
| Current IRC Sessions | Total number of current IRC sessions. |
| Current STEAM Sessions | Total number of current STEAM sessions. |
| Current DDLINK Sessions | Total number of current DDLINK sessions. |
| Current HALFLIFE2 Sessions | Total number of current HALFLIFE2 sessions. |

| Field | Description |
|---|---|
| Current HAMACHIVPN Sessions | Total number of current HAMACHIVPN sessions. |
| Current TVANTS Sessions | Total number of current TVANTS sessions. |
| Current TVUPLAYER Sessions | Total number of current TVUPLAYER sessions. |
| Current UUSEE Sessions | Total number of current UUSEE sessions. |
| Current VPNX Sessions | Total number of current VPNX sessions. |
| Current VTUN Sessions | Total number of current VTUN sessions. |
| Current WINMX Sessions | Total number of current WINMX sessions. |
| Current WOFWARCRAFT Sessions | Total number of current WOFWARCRAFT sessions. |
| Current XBOX Sessions | Total number of current XBOX sessions. |
| Current ISKOOT Sessions | Total number of current ISKOOT sessions. |
| Current FRING Sessions | Total number of current FRING sessions. |
| Current GTALK Sessions | Total number of current GTALK sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current GTALK voice Sessions | Total number of current GTALK voice sessions. |
| Current GTALK non-voice Sessions | Total number of current GTALK non-voice sessions. |
| Important The following two counters are available only for 11.0 and later releases. | |
| Current GTALK Audio Sessions | Total number of current GTALK audio sessions. |
| Current GTALK Video Sessions | Total number of current GTALK video sessions. |
| Current OOVOO Sessions | Total number of current OOVOO sessions. |
| Current FREENET Sessions | Total number of current FREENET sessions. |
| Current AIMINI Sessions | Total number of current AIMINI sessions. |
| Current BATTLEFIELD Sessions | Total number of current BATTLEFIELD sessions. |
| Current OPENFT Sessions | Total number of current OPENFT sessions. |
| Current QGAME Sessions | Total number of current QGAME sessions. |
| Current QUAKE Sessions | Total number of current QUAKE sessions. |
| Current SECONDLIFE Sessions | Total number of current SECONDLIFE sessions. |
| Current ACTIVESYNC Sessions | Total number of current ACTIVESYNC sessions. |

| Field | Description |
|---------------------------------------|--|
| Current NIMBUZZ Sessions | Total number of current NIMBUZZ sessions. |
| Current IAX Sessions | Total number of current IAX sessions. |
| Current PALTALK Sessions | Total number of current PALTALK sessions. |
| Current WARCRAFT3 Sessions | Total number of current WARCRAFT3 sessions. |
| Current IPTV Sessions | Total number of current IPTV sessions. |
| Current RDP Sessions | Total number of current RDP sessions. |
| Current PANDORA Sessions | Total number of current PANDORA sessions. |
| Current PANDORA unclassified Sessions | Total number of current PANDORA unclassified sessions. |
| Current PANDORA ads Sessions | Total number of current PANDORA ads sessions. |
| Current ICECAST Sessions | Total number of current ICECAST sessions. |
| Current KONTIKI Sessions | Total number of current KONTIKI sessions. |
| Current MEEBO Sessions | Total number of current MEEBO sessions. |
| Current SHOUTCAST Sessions | Total number of current SHOUTCAST sessions. |
| Current TRUPHONE Sessions | Total number of current TRUPHONE sessions. |
| Current THUNDER Sessions | Total number of current THUNDER sessions. |
| Current ARMAGETTRON Sessions | Total number of current ARMAGETTRON sessions. |
| Current BLACKBERRY Sessions | Total number of current BLACKBERRY sessions. |
| Current CITRIX Sessions | Total number of current CITRIX sessions. |
| Current CLUBPENGUIN Sessions | Total number of current CLUBPENGUIN sessions. |
| Current CROSSFIRE Sessions | Total number of current CROSSFIRE sessions. |
| Current DOFUS Sessions | Total number of current DOFUS sessions. |
| Current FIESTA Sessions | Total number of current FIESTA sessions. |
| Current FLORENSIA Sessions | Total number of current FLORENSIA sessions. |
| Current FUNSHION Sessions | Total number of current FUNSHION sessions. |
| Current GUILDWARS Sessions | Total number of current GUILDWARS sessions. |
| Current ISAKMP Sessions | Total number of current ISAKMP sessions. |
| Current MAPLESTORY Sessions | Total number of current MAPLESTORY sessions. |
| Current MGCP Sessions | Total number of current MGCP sessions. |

| Field | Description |
|--|---|
| Current OCTOSHAPE Sessions | Total number of current OCTOSHAPE sessions. |
| Current OFF Sessions | Total number of current OFF sessions. |
| Current PS3 Sessions | Total number of current PS3 sessions. |
| Current RMSTREAM Sessions | Total number of current RMSTREAM sessions. |
| Current RFACTOR Sessions | Total number of current RFACTOR sessions. |
| Current SPLASHFIGHTER Sessions | Total number of current SPLASHFIGHTER sessions. |
| Current SSDP Sessions | Total number of current SSDP sessions. |
| Current STEALTHNET Sessions | Total number of current STEALTHNET sessions. |
| Current STUN Sessions | Total number of current STUN sessions. |
| Current TEAMSPEAK Sessions | Total number of current TEAMSPEAK sessions. |
| Current TOR Sessions | Total number of current TOR sessions. |
| Current VEOHTV Sessions | Total number of current VEOHTV sessions. |
| Current WII Sessions | Total number of current WII sessions. |
| Current WMSTREAM Sessions | Total number of current WMSTREAM sessions. |
| Current WOFKUNGFU Sessions | Total number of current WOFKUNGFU sessions. |
| Current XDCC Sessions | Total number of current XDCC sessions. |
| Current YOURFREEDOM Sessions | Total number of current YOURFREEDOM sessions. |
| Current FACEBOOK Sessions | Total number of current FACEBOOK sessions. |
| Current GAMEKIT Sessions | Total number of current GAMEKIT sessions. |
| Current FACETIME Sessions | Total number of current FACETIME sessions. |
| Current FACETIME Unclassified Sessions | Total number of current FACETIME unclassified sessions. |
| Current FACETIME Audio Sessions | Total number of current FACETIME audio sessions. |
| Current FACETIME Video Sessions | Total number of current FACETIME video sessions. |
| Current GMAIL Sessions | Total number of current GMAIL sessions. |
| Current ITUNES Sessions | Total number of current ITUNES sessions. |
| Current MYSPACE Sessions | Total number of current MYSPACE sessions. |
| Current TEAMVIEWER Sessions | Total number of current TEAMVIEWER sessions. |
| Current TWITTER Sessions | Total number of current TWITTER sessions. |

| Field | Description |
|--|---|
| Current TWITTER streaming-video Sessions | Total number of current TWITTER streaming-video sessions. |
| Current VIBER Sessions | Total number of current VIBER sessions. |
| Current VIBER Unclassified Sessions | Total number of current VIBER Unclassified sessions. |
| Current VIBER Audio Sessions | Total number of current VIBER Audio sessions. |
| Current VIBER im Sessions | Total number of current VIBER IM sessions. |
| Current VIBER file-transfer Sessions | Total number of current VIBER File-transfer sessions. |
| Current ANTSP2P Sessions | Total number of current ANTSP2P sessions. |
| Current IMO Sessions | Total number of current IMO sessions. |
| Current NETMOTION Sessions | Total number of current NETMOTION sessions. |
| Current OGG Sessions | Total number of current OGG sessions. |
| Current OPENVPN Sessions | Total number of current OPENVPN sessions. |
| Current QUICKTIME Sessions | Total number of current QUICKTIME sessions. |
| Current SPOTIFY Sessions | Total number of current SPOTIFY sessions. |
| Current TANGO Sessions | Total number of current TANGO sessions. |
| Current TANGO Audio Sessions | Total number of current TANGO audio sessions. |
| Current TANGO Video Sessions | Total number of current TANGO video sessions. |
| Current ULTRABAC Sessions | Total number of current ULTRABAC sessions. |
| Current USENET Sessions | Total number of current USENET sessions. |
| Current VOIPTUNNEL Sessions | Total number of current VOIPTUNNEL sessions. |
| Current SCYDO Sessions | Total number of current SCYDO sessions. |
| Current WHATSAPP Sessions | Total number of current WHATSAPP sessions. |
| Current WHATSAPP unclassified Sessions | Total number of current WHATSAPP unclassified sessions. |
| Current WHATSAPP audio Sessions | Total number of current WHATSAPP audio sessions. |
| Current MYPEOPLE Sessions | Total number of current MYPEOPLE sessions. |
| Current RDT Sessions | Total number of current RDT sessions. |
| Current FLASH Sessions | Total number of current FLASH sessions. |
| Current MOJO Sessions | Total number of current MOJO sessions. |
| Current PCANYWHERE Sessions | Total number of current PCANYWHERE sessions. |

| Field | Description |
|--|---|
| Current WEBEX Sessions | Total number of current WEBEX sessions. |
| Current NETFLIX Sessions | Total number of current NETFLIX sessions. |
| Current IMPLUS Sessions | Total number of current IMPLUS sessions. |
| Current EBUDDY Sessions | Total number of current EBUDDY sessions. |
| Current MSRP Sessions | Total number of current MSRP sessions. |
| Current FICALL Sessions | Total number of current FICALL sessions. |
| Current GOTOMEETING Sessions | Total number of current GOTOMEETING sessions. |
| Current MIG33 Sessions | Total number of current MIG33 sessions. |
| Current COMODOUNITE Sessions | Total number of current COMODOUNITE sessions. |
| Current CALLOFDUTY Sessions | Total number of current CALLOFDUTY sessions. |
| Current GOOBER Sessions | Total number of current GOOBER sessions. |
| Current IPLAYER Sessions | Total number of current IPLAYER sessions. |
| Current OPERAMINI Sessions | Total number of current OPERAMINI sessions. |
| Current KAKAOTALK Sessions | Total number of current KAKAOTALK sessions. |
| Current KAKAOTALK Audio Sessions | Total number of current KAKAOTALK audio sessions. |
| Current KAKAOTALK Unclassified Sessions | Total number of current KAKAOTALK unclassified sessions. |
| Current NATEONTALK Sessions | Total number of current NATEONTALK sessions. |
| Current NAVERLINE Sessions | Total number of current NAVERLINE sessions. |
| Current AVI Sessions | Total number of current AVI sessions. |
| Current GOOGLEPLAY Sessions | Total number of current GOOGLEPLAY sessions. |
| Current ICLOUD Sessions | Total number of current ICLOUD sessions. |
| Current SORIBADA Sessions | Total number of current SORIBADA sessions. |
| Current WECHAT Sessions | Total number of current WECHAT sessions. |
| Current WUALA Sessions | Total number of current WUALA sessions. |
| Current ACTIONVOIP Sessions | Total number of current ACTIONVOIP sessions. |
| Current ACTIONVOIP unclassified Sessions | Total number of current ACTIONVOIP unclassified sessions. |
| Current ACTIONVOIP audio Sessions | Total number of current ACTIONVOIP audio sessions. |
| Current AMAZONCLOUD Sessions | Total number of current AMAZONCLOUD sessions. |

| Field | Description |
|---|--|
| Current ICALL Sessions | Total number of current ICALL sessions. |
| Current ICALL unclassified Sessions | Total number of current ICALL unclassified sessions. |
| Current ICALL audio Sessions | Total number of current ICALL audio sessions. |
| Current ICALL video Sessions | Total number of current ICALL video sessions. |
| Current INSTAGRAM Sessions | Total number of current INSTAGRAM sessions. |
| Current JUMBLO Sessions | Total number of current JUMBLO sessions. |
| Current JUMBLO unclassified Sessions | Total number of current JUMBLO unclassified sessions. |
| Current JUMBLO audio Sessions | Total number of current JUMBLO audio sessions. |
| Current KUGOO Sessions | Total number of current KUGOO sessions. |
| Current MAGICJACK Sessions | Total number of current MAGICJACK sessions. |
| Current MAGICJACK unclassified Sessions | Total number of current MAGICJACK unclassified sessions. |
| Current MAGICJACK audio Sessions | Total number of current MAGICJACK audio sessions. |
| Current MAPI Sessions | Total number of current MAPI sessions. |
| Current PINTEREST Sessions | Total number of current PINTEREST sessions. |
| Current PLINGM Sessions | Total number of current PLINGM sessions. |
| Current PLINGM unclassified Sessions | Total number of current PLINGM unclassified sessions. |
| Current PLINGM audio Sessions | Total number of current PLINGM audio sessions. |
| Current RYNGA Sessions | Total number of current RYNGA sessions. |
| Current RYNGA unclassified Sessions | Total number of current RYNGA unclassified sessions. |
| Current RYNGA audio Sessions | Total number of current RYNGA audio sessions. |
| Current SMARTVOIP Sessions | Total number of current SMARTVOIP sessions. |
| Current SMARTVOIP unclassified Sessions | Total number of current SMARTVOIP unclassified sessions. |
| Current SMARTVOIP audio Sessions | Total number of current SMARTVOIP audio sessions. |
| Current SPDY Sessions | Total number of current SPDY sessions. |
| Current TALKATONE Sessions | Total number of current TALKATONE sessions. |
| Current TALKATONE unclassified Sessions | Total number of current TALKATONE unclassified sessions. |
| Current TALKATONE audio Sessions | Total number of current TALKATONE audio sessions. |
| Current VOIPDISCOUNT Sessions | Total number of current VOIPDISCOUNT sessions. |

| Field | Description |
|--|---|
| Current VOIPDISCOUNT unclassified Sessions | Total number of current VOIPDISCOUNT unclassified sessions. |
| Current VOIPDISCOUNT audio Sessions | Total number of current VOIPDISCOUNT audio sessions. |
| Current VOPIUM Sessions | Total number of current VOPIUM sessions. |
| Current VOPIUM unclassified Sessions | Total number of current VOPIUM unclassified sessions. |
| Current VOPIUM audio Sessions | Total number of current VOPIUM audio sessions. |
| Current BEHAVIORAL-P2P Sessions | Total number of current Behavioral-P2P sessions. |
| Current BEHAVIORAL-VOIP Sessions | Total number of current Behavioral-VoIP sessions. |
| Current BEHAVIORAL-UPLOAD Sessions | Total number of current Behavioral-upload sessions. |
| Current BEHAVIORAL-DOWNLOAD Sessions | Total number of current Behavioral-download sessions. |
| Current IMESSAGE Sessions | Total number of current IMESSAGE sessions. |
| Current LINKEDIN Sessions | Total number of current LINKEDIN sessions. |
| Current GOOGLE Sessions | Total number of current GOOGLE sessions. |
| Current POCO Sessions | Total number of current POCO sessions. |
| Current ULTRASURF Sessions | Total number of current ULTRASURF sessions. |
| Current SNAPCHAT Sessions | Total number of current SNAPCHAT sessions. |
| Current TRUCCALLER Sessions | Total number of current TRUCCALLER sessions. |
| Current CYBERGHOST Sessions | Total number of current CYBERGHOST sessions. |
| Current GOOGLEPLUS Sessions | Total number of current GOOGLEPLUS sessions. |
| Current ADOBECONNECT Sessions | Total number of current ADOBECONNECT sessions. |
| Current USTREAM Sessions | Total number of current USTREAM sessions. |
| Current SIRI Sessions | Total number of current SIRI sessions. |
| Current SOFTETHER Sessions | Total number of current SOFTETHER sessions. |
| Current SUDAPHONE Sessions | Total number of current SUDAPHONE sessions. |
| Current SVTPLAY Sessions | Total number of current SVTPLAY sessions. |
| Current HYVES Sessions | Total number of current HYVES sessions. |
| Current SILVERLIGHT Sessions | Total number of current SILVERLIGHT sessions. |
| Current BLACKDIALER Sessions | Total number of current BLACKDIALER sessions. |
| Current BLACKDIALER Unclassified Sessions | Total number of current BLACKDIALER unclassified sessions. |

| Field | Description |
|---|--|
| Current BLACKDIALER Audio Sessions | Total number of current BLACKDIALER audio sessions. |
| Important The following statistics are supported from ADC plugin 1.5 and later releases. | |
| Current RODI Sessions | Total number of current RODI sessions. |
| Current SKYDRIVE Sessions | Total number of current SKYDRIVE sessions. |
| Current VTOK Sessions | Total number of current VTOK sessions. |
| Current VTOK Unclassified Sessions | Total number of current VTOK unclassified sessions. |
| Current VTOK Audio Sessions | Total number of current VTOK audio sessions. |
| Current VTOK Video Sessions | Total number of current VTOK video sessions. |
| Current FLICKR Sessions | Total number of current FLICKR sessions. |
| Current KURO Sessions | Total number of current KURO sessions. |
| Current DROPBOX Sessions | Total number of current DROPBOX sessions. |
| Current HEYTELL Sessions | Total number of current HEYTELL sessions. |
| Current BITCASA Sessions | Total number of current BITCASA sessions. |
| Current CLUBBOX Sessions | Total number of current CLUBBOX sessions. |
| Current TUMBLR Sessions | Total number of current TUMBLR sessions. |
| Current YOUTUBE Sessions | Total number of current YOUTUBE sessions. |
| Current VOXER Sessions | Total number of current VOXER sessions. |
| Current HOTSPOTVPN Sessions | Total number of current HOTSPOT VPN sessions. |
| Current BAIDUMOVIE Sessions | Total number of current BAIDU MOVIE sessions. |
| Current APPLEMAPS Sessions | Total number of current APPLEMAPS sessions. |
| Current BADOO Sessions | Total number of current BADOO sessions. |
| Current FACEBOOK UNCLASSIFIED Sessions | Total number of current FACEBOOK UNCLASSIFIED sessions. |
| Current FACEBOOK AUDIO Sessions | Total number of current FACEBOOK AUDIO sessions. |
| Current FACEBOOK streaming-video Sessions | Total number of current FACEBOOK streaming-video sessions. |
| Current FOURSQUARE Sessions | Total number of current FOURSQUARE sessions. |
| Current JAP Sessions | Total number of current JAP sessions. |
| Current MONKEY3 Sessions | Total number of current MONKEY3 sessions. |
| Current OUTLOOK Sessions | Total number of current OUTLOOK sessions. |

| Field | Description |
|--|---|
| Current VINE Sessions | Total number of current VINE sessions. |
| Current YAHOOEMAIL Sessions | Total number of current YAHOOEMAIL sessions. |
| Current BBM Sessions | Total number of current BBM sessions. |
| Current BBM UNCLASSIFIED Sessions | Total number of current BBM UNCLASSIFIED sessions. |
| Current BBM AUDIO Sessions | Total number of current BBM AUDIO sessions. |
| Current BOX Sessions | Total number of current BOX sessions. |
| Current CHIKKA Sessions | Total number of current CHIKKA sessions. |
| Current IMGUR Sessions | Total number of current IMGUR sessions. |
| Current OIST Sessions | Total number of current OIST sessions. |
| Current REGRAM Sessions | Total number of current REGRAM sessions. |
| Current VCHAT Sessions | Total number of current VCHAT sessions. |
| Current bittorrent-sync Sessions | Total number of current Bittorrent Sync sessions. |
| Current cisco-jabber unclassified Sessions | Total number of current Cisco Jabber Unclassified sessions. |
| Current cisco-jabber audio Sessions | Total number of current Cisco Jabber Audio sessions. |
| Current cisco-jabber video Sessions | Total number of current Cisco Jabber Video sessions. |
| Current hls Sessions | Total number of current HLS sessions. |
| Current lync Sessions | Total number of current Lync sessions. |
| Current lync unclassified Sessions | Total number of current Lync Unclassified sessions. |
| Current lync audio Sessions | Total number of current Lync Audio sessions. |
| Current lync auvideo Sessions | Total number of current Lync Video sessions. |
| Current lync file-transfer Sessions | Total number of current Lync File-transfer sessions. |
| Current path Sessions | Total number of current Path sessions. |
| Current waze Sessions | Total number of current Waze sessions. |
| Current youku Sessions | Total number of current Youku sessions. |
| Current behavioral-video Sessions | Total number of current Behavioral video sessions. |
| Current apple-store Sessions | Total number of current apple-store sessions. |
| Current blackberry-store Sessions | Total number of current blackberry-store sessions. |
| Current hulu Sessions | Total number of current hulu sessions. |

| Field | Description |
|---|--|
| Current igo Sessions | Total number of current igo sessions. |
| Current mapfactor Sessions | Total number of current mapfactor sessions. |
| Current mozy Sessions | Total number of current mozy sessions. |
| Current navigon Sessions | Total number of current navigon sessions. |
| Current nokia-store Sessions | Total number of current nokia-store sessions. |
| Current opendrive Sessions | Total number of current opendrive sessions. |
| Current samsung-store Sessions | Total number of current samsung-store sessions. |
| Current weibo Sessions | Total number of current weibo sessions. |
| Current windows-azure Sessions | Total number of current windows-azure sessions. |
| Current windows-store Sessions | Total number of current windows-store sessions. |
| Current windows-store Sessions | Total number of current windows-store sessions. |
| Current apple-push Sessions | Total number of current apple-push sessions. |
| Current didi Sessions | Total number of current didi sessions. |
| Current friendster Sessions | Total number of current friendster sessions. |
| Current google-music Sessions | Total number of current google-music sessions. |
| Current google-push Sessions | Total number of current google-push sessions. |
| Current hike-messenger Sessions | Total number of current hike-messenger sessions. |
| Current idrive Sessions | Total number of current idrive sessions. |
| Current kik-messenger Sessions | Total number of current kik-messenger sessions. |
| Current tagged Sessions | Total number of current tagged sessions. |
| Current telegram Sessions | Total number of current telegram sessions. |
| Current xing Sessions | Total number of current xing sessions. |
| Current rhapsody Sessions | Total number of current rhapsody sessions. |
| Current speedtest Sessions | Total number of current speedtest sessions. |
| Current twitch Sessions | Total number of current twitch sessions. |
| Current hbogo Sessions | Total number of current hbogo sessions. |
| Current iheartradio Sessions | Total number of current iheartradio sessions. |
| Current iheartradio unclassified Sessions | Total number of current iheartradio unclassified sessions. |

| Field | Description |
|---|--|
| Current iheartradio ads Sessions | Total number of current iheartradio ads sessions. |
| Current slacker-radio Sessions | Total number of current slacker-radio sessions. |
| Current slacker-radio unclassified Sessions | Total number of current slacker-radio unclassified sessions. |
| Current slacker-radio ads Sessions | Total number of current slacker-radio ads sessions. |
| Current upc-phone Sessions | Total number of current upc-phone sessions. |
| Current upc-phone unclassified Sessions | Total number of current upc-phone unclassified sessions. |
| Current upc-phone audio Sessions | Total number of current upc-phone audio sessions. |
| Current radio-paradise audio Sessions | Total number of current radio-paradise audio sessions. |
| Current beatport Sessions | Total number of current beatport sessions. |
| Current soundcloud Sessions | Total number of current soundcloud sessions. |
| Current amazonmusic Sessions | Total number of current amazonmusic sessions. |
| Current ssl Sessions | Total number of current ssl sessions. |
| Current slingtv Sessions | Total number of current slingtv sessions. |
| Current vessel Sessions | Total number of current vessel sessions. |
| Current vudu Sessions | Total number of current vudu sessions. |
| Current go90 Sessions | Total number of current go90 sessions. |
| Current Espn Sessions | Total number of current espn sessions. |
| Current Hbonow Sessions | Total number of current hbonow sessions. |
| Current Crackle Sessions | Total number of current crackle sessions. |

show active-charging sessions summary type p2p

Table 87: show active-charging sessions summary type p2p Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| Total Active Charging Sessions | The total number of active charging sessions. |
| Uplink Bytes | Total bytes uploaded. |
| Downlink Bytes | Total bytes downloaded. |
| Uplink Packets | Total packets uploaded. |

| Field | Description |
|---------------------------|--|
| Downlink Packets | Total packets downloaded. |
| Current IP Sessions | Total number of current IP sessions. |
| Current ICMP Sessions | Total number of current ICMP sessions. |
| Current IPv6 Sessions | Total number of current IPv6 sessions. |
| Current ICMPv6 Sessions | Total number of current ICMPv6 sessions. |
| Current TCP Sessions | Total number of current TCP sessions. |
| Current UDP Sessions | Total number of current UDP sessions. |
| Current HTTP Sessions | Total number of current HTTP sessions. |
| Current HTTPS Sessions | Total number of current HTTPS sessions. |
| Current FTP Sessions | Total number of current FTP sessions. |
| Current POP3 Sessions | Total number of current POP3 sessions. |
| Current SMTP Sessions | Total number of current SMTP sessions. |
| Current SIP Sessions | Total number of current SIP sessions. |
| Current RTSP Sessions | Total number of current RTSP sessions. |
| Current RTP Sessions | Total number of current RTP sessions. |
| Current RTCP Sessions | Total number of current RTCP sessions. |
| Current IMAP Sessions | Total number of current IMAP sessions. |
| Current WSP-CO Sessions | Total number of current WSP-CO sessions. |
| Current WSP-CL Sessions | Total number of current WSP-CL sessions. |
| Current MMS Sessions | Total number of current MMS sessions. |
| Current DNS Sessions | Total number of current DNS sessions. |
| Current PPTP Sessions | Total number of current PPTP sessions. |
| Current PPTP-GRE Sessions | Total number of current PPTP-GRE sessions. |
| Current P2P Sessions | Total number of current P2P sessions. |
| Current H323 Sessions | Total number of current H323 sessions. |
| Current TFTP Sessions | Total number of current TFTP sessions. |
| Current UNKNOWN Sessions | Total number of current UNKNOWN sessions. |
| Current SKYPE Sessions | Total number of current SKYPE sessions. |

| Field | Description |
|---|--|
| Current YAHOO Sessions | Total number of current YAHOO sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current SKYPE voice Sessions | Total number of current SKYPE voice sessions. |
| Current YAHOO voice Sessions | Total number of current YAHOO voice sessions. |
| Current SKYPE non-voice Sessions | Total number of current SKYPE non-voice sessions. |
| Current YAHOO non-voice Sessions | Total number of current YAHOO non-voice sessions. |
| Important The following audio/non-audio counters are available only for 11.0 and later releases. | |
| Current SKYPE Audio Sessions | Total number of current SKYPE audio sessions. |
| Current YAHOO Audio Sessions | Total number of current YAHOO audio sessions. |
| Important The following audio/non-audio counters are available only for release 11.0. | |
| Current SKYPE non-audio Sessions | Total number of current SKYPE non-audio sessions. |
| Current YAHOO non-audio Sessions | Total number of current YAHOO non-audio sessions. |
| Important The following counters are available only for 12.0 and later releases. | |
| Current SKYPE Video Sessions | Total number of current SKYPE Video sessions. |
| Current YAHOO Video Sessions | Total number of current YAHOO Video sessions. |
| Current SKYPE Unclassified Sessions | Total number of current SKYPE Unclassified sessions. |
| Current SKYPE Voipout Sessions | Total number of current SKYPE Voipout sessions. |
| Current EDONKEY Sessions | Total number of current EDONKEY sessions. |
| Current ORB Sessions | Total number of current ORB sessions. |
| Current MSN Sessions | Total number of current MSN sessions. |
| Current GNUTELLA Sessions | Total number of current GNUTELLA sessions. |
| Important The following counter is available only for 10.0 and earlier releases. | |
| Current MSN voice Sessions | Total number of current MSN voice sessions. |
| Important The following counter is available only for 11.0 and later releases. | |
| Current MSN audio Sessions | Total number of current MSN audio sessions. |
| Current BITTORRENT Sessions | Total number of current BITTORRENT sessions. |

| Field | Description |
|---|--|
| Important The following counter is available only for 10.0 and earlier releases. | |
| Current MSN non-voice Sessions | Total number of current MSN non-voice sessions. |
| Important The following counter is available only for release 11.0. | |
| Current MSN non-audio Sessions | Total number of current MSN non-audio sessions. |
| Current MSN Video Sessions | Total number of current MSN video sessions. |
| Current MSN Unclassified Sessions | Total number of current MSN unclassified sessions. |
| Current SLINGBOX Sessions | Total number of current SLINGBOX sessions. |
| Current JABBER Sessions | Total number of current JABBER sessions. |
| Current WINNY Sessions | Total number of current WINNY sessions. |
| Current MANOLITO Sessions | Total number of current MANOLITO sessions. |
| Current PANDO Sessions | Total number of current PANDO sessions. |
| Current FILETOPIA Sessions | Total number of current FILETOPIA sessions. |
| Current SOULSEEK Sessions | Total number of current SOULSEEK sessions. |
| Current PPSTREAM Sessions | Total number of current PPSTREAM sessions. |
| Current QQ Sessions | Total number of current QQ sessions. |
| Current QQ Audio Sessions | Total number of current QQ audio sessions. |
| Current QQ Video Sessions | Total number of current QQ video sessions. |
| Current QQLIVE Sessions | Total number of current QQLIVE sessions. |
| Current IMESH Sessions | Total number of current IMESH sessions. |
| Current MUTE Sessions | Total number of current MUTE sessions. |
| Current PPLIVE Sessions | Total number of current PPLIVE sessions. |
| Current GADUGADU Sessions | Total number of current GADUGADU sessions. |
| Current FEIDIAN Sessions | Total number of current FEIDIAN sessions. |
| Current APPLEJUICE Sessions | Total number of current APPLEJUICE sessions. |
| Current FASTTRACK Sessions | Total number of current FASTTRACK sessions. |
| Current ZATTOO Sessions | Total number of current ZATTOO sessions. |
| Current SKINNY Sessions | Total number of current SKINNY sessions. |

| Field | Description |
|---|---|
| Current SOPCAST Sessions | Total number of current SOPCAST sessions. |
| Current DIRECTCONNECT Sessions | Total number of current DIRECTCONNECT sessions. |
| Current ARES Sessions | Total number of current ARES sessions. |
| Current OSCAR Sessions | Total number of current OSCAR sessions. |
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current OSCAR voice Sessions | Total number of current OSCAR voice sessions. |
| Current OSCAR non-voice Sessions | Total number of current OSCAR non-voice sessions. |
| Important The following audio/non-audio counters are available only for release 11.0 and later releases. | |
| Current OSCAR Audio Sessions | Total number of current OSCAR audio sessions. |
| Current OSCAR Video Sessions | Total number of current OSCAR video sessions. |
| Current POPO Sessions | Total number of current POPO sessions. |
| Current IRC Sessions | Total number of current IRC sessions. |
| Current STEAM Sessions | Total number of current STEAM sessions. |
| Current DDLINK Sessions | Total number of current DDLINK sessions. |
| Current HALFLIFE2 Sessions | Total number of current HALFLIFE2 sessions. |
| Current HAMACHIVPN Sessions | Total number of current HAMACHIVPN sessions. |
| Current TVANTS Sessions | Total number of current TVANTS sessions. |
| Current TVUPLAYER Sessions | Total number of current TVUPLAYER sessions. |
| Current UUSEE Sessions | Total number of current UUSEE sessions. |
| Current VPNX Sessions | Total number of current VPNX sessions. |
| Current VTUN Sessions | Total number of current VTUN sessions. |
| Current WINMX Sessions | Total number of current WINMX sessions. |
| Current WOFWARCRAFT Sessions | Total number of current WOFWARCRAFT sessions. |
| Current XBOX Sessions | Total number of current XBOX sessions. |
| Current ISKOOT Sessions | Total number of current ISKOOT sessions. |
| Current FRING Sessions | Total number of current FRING sessions. |
| Current GTALK Sessions | Total number of current GTALK sessions. |

| Field | Description |
|---|--|
| Important The following voice/non-voice counters are available only for 10.0 and earlier releases. | |
| Current GTALK voice Sessions | Total number of current GTALK voice sessions. |
| Current GTALK non-voice Sessions | Total number of current GTALK non-voice sessions. |
| Important The following audio/non-audio counters are available only for 11.0 and later releases. | |
| Current GTALK Audio Sessions | Total number of current GTALK Audio sessions. |
| Current GTALK Video Sessions | Total number of current GTALK video sessions. |
| Current OOVOO Sessions | Total number of current OOVOO sessions. |
| Current FREENET Sessions | Total number of current FREENET sessions. |
| Current AIMINI Sessions | Total number of current AIMINI sessions. |
| Current BATTLEFIELD Sessions | Total number of current BATTLEFIELD sessions. |
| Current OPENFT Sessions | Total number of current OPENFT sessions. |
| Current QGAME Sessions | Total number of current QGAME sessions. |
| Current QUAKE Sessions | Total number of current QUAKE sessions. |
| Current SECONDLIFE Sessions | Total number of current SECONDLIFE sessions. |
| Current ACTIVESYNC Sessions | Total number of current ACTIVESYNC sessions. |
| Current NIMBUZZ Sessions | Total number of current NIMBUZZ sessions. |
| Current IAX Sessions | Total number of current IAX sessions. |
| Current PALTALK Sessions | Total number of current PALTALK sessions. |
| Current WARCRAFT3 Sessions | Total number of current WARCRAFT3 sessions. |
| Current IPTV Sessions | Total number of current IPTV sessions. |
| Current RDP Sessions | Total number of current RDP sessions. |
| Current PANDORA Sessions | Total number of current PANDORA sessions. |
| Current PANDORA unclassified Sessions | Total number of current PANDORA unclassified sessions. |
| Current PANDORA ads Sessions | Total number of current PANDORA ads sessions. |
| Current ICECAST Sessions | Total number of current ICECAST sessions. |
| Current KONTIKI Sessions | Total number of current KONTIKI sessions. |
| Current MEEBO Sessions | Total number of current MEEBO sessions. |

| Field | Description |
|--------------------------------|---|
| Current SHOUTCAST Sessions | Total number of current SHOUTCAST sessions. |
| Current TRUPHONE Sessions | Total number of current TRUPHONE sessions. |
| Current THUNDER Sessions | Total number of current THUNDER sessions. |
| Current ARMAGETTRON Sessions | Total number of current ARMAGETTRON sessions. |
| Current BLACKBERRY Sessions | Total number of current BLACKBERRY sessions. |
| Current CITRIX Sessions | Total number of current CITRIX sessions. |
| Current CLUBPENGUIN Sessions | Total number of current CLUBPENGUIN sessions. |
| Current CROSSFIRE Sessions | Total number of current CROSSFIRE sessions. |
| Current DOFUS Sessions | Total number of current DOFUS sessions. |
| Current FIESTA Sessions | Total number of current FIESTA sessions. |
| Current FLORENSIA Sessions | Total number of current FLORENSIA sessions. |
| Current FUNSHION Sessions | Total number of current FUNSHION sessions. |
| Current GUILDWARS Sessions | Total number of current GUILDWARS sessions. |
| Current ISAKMP Sessions | Total number of current ISAKMP sessions. |
| Current MAPLESTORY Sessions | Total number of current MAPLESTORY sessions. |
| Current MGCP Sessions | Total number of current MGCP sessions. |
| Current OCTOSHAPe Sessions | Total number of current OCTOSHAPe sessions. |
| Current OFF Sessions | Total number of current OFF sessions. |
| Current PS3 Sessions | Total number of current PS3 sessions. |
| Current RMSTREAM Sessions | Total number of current RMSTREAM sessions. |
| Current RFACTOR Sessions | Total number of current RFACTOR sessions. |
| Current SPLASHFIGHTER Sessions | Total number of current SPLASHFIGHTER sessions. |
| Current SSDP Sessions | Total number of current SSDP sessions. |
| Current STEALTHNET Sessions | Total number of current STEALTHNET sessions. |
| Current STUN Sessions | Total number of current STUN sessions. |
| Current TEAMSPEAK Sessions | Total number of current TEAMSPEAK sessions. |
| Current TOR Sessions | Total number of current TOR sessions. |
| Current VEOHTV Sessions | Total number of current VEOHTV sessions. |

| Field | Description |
|--|---|
| Current WII Sessions | Total number of current WII sessions. |
| Current WMSTREAM Sessions | Total number of current WMSTREAM sessions. |
| Current WOFKUNGFU Sessions | Total number of current WOFKUNGFU sessions. |
| Current XDCC Sessions | Total number of current XDCC sessions. |
| Current YOURFREEDOM Sessions | Total number of current YOURFREEDOM sessions. |
| Current FACEBOOK Sessions | Total number of current FACEBOOK sessions. |
| Current GAMEKIT Sessions | Total number of current GAMEKIT sessions. |
| Current FACETIME Sessions | Total number of current FACETIME sessions. |
| Current FACETIME Unclassified Sessions | Total number of current FACETIME unclassified sessions. |
| Current FACETIME Audio Sessions | Total number of current FACETIME audio sessions. |
| Current FACETIME Video Sessions | Total number of current FACETIME video sessions. |
| Current GMAIL Sessions | Total number of current GMAIL sessions. |
| Current ITUNES Sessions | Total number of current ITUNES sessions. |
| Current MYSPACE Sessions | Total number of current MYSPACE sessions. |
| Current TEAMVIEWER Sessions | Total number of current TEAMVIEWER sessions. |
| Current TWITTER Sessions | Total number of current TWITTER sessions. |
| Current TWITTER streaming-video Sessions | Total number of current TWITTER streaming-video sessions. |
| Current VIBER Sessions | Total number of current VIBER sessions. |
| Current VIBER Unclassified Sessions | Total number of current VIBER Unclassified sessions. |
| Current VIBER Audio Sessions | Total number of current VIBER Audio sessions. |
| Current VIBER im Sessions | Total number of current VIBER IM sessions. |
| Current VIBER file-transfer Sessions | Total number of current VIBER File-transfer sessions. |
| Current ANTSP2P Sessions | Total number of current ANTSP2P sessions. |
| Current IMO Sessions | Total number of current IMO sessions. |
| Current NETMOTION Sessions | Total number of current NETMOTION sessions. |
| Current OGG Sessions | Total number of current OGG sessions. |
| Current OPENVPN Sessions | Total number of current OPENVPN sessions. |
| Current QUICKTIME Sessions | Total number of current QUICKTIME sessions. |

| Field | Description |
|--|---|
| Current SPOTIFY Sessions | Total number of current SPOTIFY sessions. |
| Current TANGO Sessions | Total number of current TANGO sessions. |
| Current ULTRABAC Sessions | Total number of current ULTRABAC sessions. |
| Current USENET Sessions | Total number of current USENET sessions. |
| Current VOIPTUNNEL Sessions | Total number of current VOIPTUNNEL sessions. |
| Current SCYDO Sessions | Total number of current SCYDO sessions. |
| Current WHATSAPP Sessions | Total number of current WHATSAPP sessions. |
| Current WHATSAPP unclassified Sessions | Total number of current WHATSAPP unclassified sessions. |
| Current WHATSAPP audio Sessions | Total number of current WHATSAPP audio sessions. |
| Current MYPEOPLE Sessions | Total number of current MYPEOPLE sessions. |
| Current RDT Sessions | Total number of current RDT sessions. |
| Current FLASH Sessions | Total number of current FLASH sessions. |
| Current MOJO Sessions | Total number of current MOJO sessions. |
| Current PCANYWHERE Sessions | Total number of current PCANYWHERE sessions. |
| Current WEBEX Sessions | Total number of current WEBEX sessions. |
| Current NETFLIX Sessions | Total number of current NETFLIX sessions. |
| Current IMPLUS Sessions | Total number of current IMPLUS sessions. |
| Current EBUDDY Sessions | Total number of current EBUDDY sessions. |
| Current MSRP Sessions | Total number of current MSRP sessions. |
| Current FICALL Sessions | Total number of current FICALL sessions. |
| Current GOTOMEETING Sessions | Total number of current GOTOMEETING sessions. |
| Current MIG33 Sessions | Total number of current MIG33 sessions. |
| Current COMODOUNITE Sessions | Total number of current COMODOUNITE sessions. |
| Current GOOBER Sessions | Total number of current GOOBER sessions. |
| Current IPLAYER Sessions | Total number of current IPLAYER sessions. |
| Current OPERAMINI Sessions | Total number of current OPERAMINI sessions. |
| Current KAKAOTALK Sessions | Total number of current KAKAOTALK sessions. |
| Current KAKAOTALK Audio Sessions | Total number of current KAKAOTALK audio sessions. |

| Field | Description |
|--|---|
| Current KAKAOTALK Unclassified Sessions | Total number of current KAKAOTALK unclassified sessions. |
| Current NATEONTALK Sessions | Total number of current NATEONTALK sessions. |
| Current NAVERLINE Sessions | Total number of current NAVERLINE sessions. |
| Current AVI Sessions | Total number of current AVI sessions. |
| Current GOOGLEPLAY Sessions | Total number of current GOOGLEPLAY sessions. |
| Current ICLOUD Sessions | Total number of current ICLOUD sessions. |
| Current SORIBADA Sessions | Total number of current SORIBADA sessions. |
| Current WECHAT Sessions | Total number of current WECHAT sessions. |
| Current WUALA Sessions | Total number of current WUALA sessions. |
| Current ACTIONVOIP Sessions | Total number of current ACTIONVOIP sessions. |
| Current ACTIONVOIP unclassified Sessions | Total number of current ACTIONVOIP unclassified sessions. |
| Current ACTIONVOIP audio Sessions | Total number of current ACTIONVOIP audio sessions. |
| Current AMAZONCLOUD Sessions | Total number of current AMAZONCLOUD sessions. |
| Current ICALL Sessions | Total number of current ICALL sessions. |
| Current ICALL unclassified Sessions | Total number of current ICALL unclassified sessions. |
| Current ICALL audio Sessions | Total number of current ICALL audio sessions. |
| Current ICALL video Sessions | Total number of current ICALL video sessions. |
| Current INSTAGRAM Sessions | Total number of current INSTAGRAM sessions. |
| Current JUMBLO Sessions | Total number of current JUMBLO sessions. |
| Current JUMBLO unclassified Sessions | Total number of current JUMBLO unclassified sessions. |
| Current JUMBLO audio Sessions | Total number of current JUMBLO audio sessions. |
| Current KUGOO Sessions | Total number of current KUGOO sessions. |
| Current MAGICJACK Sessions | Total number of current MAGICJACK sessions. |
| Current MAGICJACK unclassified Sessions | Total number of current MAGICJACK unclassified sessions. |
| Current MAGICJACK audio Sessions | Total number of current MAGICJACK audio sessions. |
| Current MAPI Sessions | Total number of current MAPI sessions. |
| Current PINTEREST Sessions | Total number of current PINTEREST sessions. |
| Current PLINGM Sessions | Total number of current PLINGM sessions. |

| Field | Description |
|--|---|
| Current PLINGM unclassified Sessions | Total number of current PLINGM unclassified sessions. |
| Current PLINGM audio Sessions | Total number of current PLINGM audio sessions. |
| Current RYNGA Sessions | Total number of current RYNGA sessions. |
| Current RYNGA unclassified Sessions | Total number of current RYNGA unclassified sessions. |
| Current RYNGA audio Sessions | Total number of current RYNGA audio sessions. |
| Current SMARTVOIP Sessions | Total number of current SMARTVOIP sessions. |
| Current SMARTVOIP unclassified Sessions | Total number of current SMARTVOIP unclassified sessions. |
| Current SMARTVOIP audio Sessions | Total number of current SMARTVOIP audio sessions. |
| Current SPDY Sessions | Total number of current SPDY sessions. |
| Current TALKATONE Sessions | Total number of current TALKATONE sessions. |
| Current TALKATONE unclassified Sessions | Total number of current TALKATONE unclassified sessions. |
| Current TALKATONE audio Sessions | Total number of current TALKATONE audio sessions. |
| Current VOIPDISCOUNT Sessions | Total number of current VOIPDISCOUNT sessions. |
| Current VOIPDISCOUNT unclassified Sessions | Total number of current VOIPDISCOUNT unclassified sessions. |
| Current VOIPDISCOUNT audio Sessions | Total number of current VOIPDISCOUNT audio sessions. |
| Current VOPIUM Sessions | Total number of current VOPIUM sessions. |
| Current VOPIUM unclassified Sessions | Total number of current VOPIUM unclassified sessions. |
| Current VOPIUM audio Sessions | Total number of current VOPIUM audio sessions. |
| Current BEHAVIORAL-P2P Sessions | Total number of current Behavioral-P2P sessions. |
| Current BEHAVIORAL-VOIP Sessions | Total number of current Behavioral-VoIP sessions. |
| Current BEHAVIORAL-UPLOAD Sessions | Total number of current Behavioral-upload sessions. |
| Current BEHAVIORAL-DOWNLOAD Sessions | Total number of current Behavioral-download sessions. |
| Current IMESSAGE Sessions | Total number of current IMESSAGE sessions. |
| Current LINKEDIN Sessions | Total number of current LINKEDIN sessions. |
| Current GOOGLE Sessions | Total number of current GOOGLE sessions. |
| Current POCO Sessions | Total number of current POCO sessions. |
| Current ULTRASURF Sessions | Total number of current ULTRASURF sessions. |
| Current SNAPCHAT Sessions | Total number of current SNAPCHAT sessions. |

| Field | Description |
|---|--|
| Current TRUECALLER Sessions | Total number of current TRUECALLER sessions. |
| Current CYBERGHOST Sessions | Total number of current CYBERGHOST sessions. |
| Current GOOGLEPLUS Sessions | Total number of current GOOGLEPLUS sessions. |
| Current ADOBECONNECT Sessions | Total number of current ADOBECONNECT sessions. |
| Current USTREAM Sessions | Total number of current USTREAM sessions. |
| Current SIRI Sessions | Total number of current SIRI sessions. |
| Current SOFTETHER Sessions | Total number of current SOFTETHER sessions. |
| Current SUDAPHONE Sessions | Total number of current SUDAPHONE sessions. |
| Current SVTPLAY Sessions | Total number of current SVTPLAY sessions. |
| Current HYVES Sessions | Total number of current HYVES sessions. |
| Current SILVERLIGHT Sessions | Total number of current SILVERLIGHT sessions. |
| Current BLACKDIALER Sessions | Total number of current BLACKDIALER sessions. |
| Current APPLEMAPS Sessions | Total number of current APPLEMAPS sessions. |
| Current BADOO Sessions | Total number of current BADOO sessions. |
| Current FACEBOOK UNCLASSIFIED Sessions | Total number of current FACEBOOK UNCLASSIFIED sessions. |
| Current FACEBOOK AUDIO Sessions | Total number of current FACEBOOK AUDIO sessions. |
| Current FACEBOOK streaming-video Sessions | Total number of current FACEBOOK streaming-video sessions. |
| Current FOURSQUARE Sessions | Total number of current FOURSQUARE sessions. |
| Current JAP Sessions | Total number of current JAP sessions. |
| Current MONKEY3 Sessions | Total number of current MONKEY3 sessions. |
| Current OUTLOOK Sessions | Total number of current OUTLOOK sessions. |
| Current VINE Sessions | Total number of current VINE sessions. |
| Current YAHOOEMAIL Sessions | Total number of current YAHOOEMAIL sessions. |
| Current BBM Sessions | Total number of current BBM sessions. |
| Current BBM UNCLASSIFIED Sessions | Total number of current BBM UNCLASSIFIED sessions. |
| Current BBM AUDIO Sessions | Total number of current BBM AUDIO sessions. |
| Current BOX Sessions | Total number of current BOX sessions. |
| Current CHIKKA Sessions | Total number of current CHIKKA sessions. |

| Field | Description |
|--|---|
| Current IMGUR Sessions | Total number of current IMGUR sessions. |
| Current OIST Sessions | Total number of current OIST sessions. |
| Current REGRAM Sessions | Total number of current REGRAM sessions. |
| Current VCHAT Sessions | Total number of current VCHAT sessions. |
| Current bittorent-sync Sessions | Total number of current Bittorrent Sync sessions. |
| Current cisco-jabber unclassified Sessions | Total number of current Cisco Jabber Unclassified sessions. |
| Current cisco-jabber audio Sessions | Total number of current Cisco Jabber Audio sessions. |
| Current cisco-jabber video Sessions | Total number of current Cisco Jabber Video sessions. |
| Current hls Sessions | Total number of current HLS sessions. |
| Current lync Sessions | Total number of current Lync sessions. |
| Current lync unclassified Sessions | Total number of current Lync Unclassified sessions. |
| Current lync audio Sessions | Total number of current Lync Audio sessions. |
| Current lync auvideo Sessions | Total number of current Lync Video sessions. |
| Current lync file-transfer Sessions | Total number of current Lync File-transfer sessions. |
| Current path Sessions | Total number of current Path sessions. |
| Current waze Sessions | Total number of current Waze sessions. |
| Current youku Sessions | Total number of current Youku sessions. |
| Current behavioral-video Sessions | Total number of current Behavioral video sessions. |
| Current apple-store Sessions | Total number of current apple-store sessions. |
| Current blackberry-store Sessions | Total number of current blackberry-store sessions. |
| Current hulu Sessions | Total number of current hulu sessions. |
| Current igo Sessions | Total number of current igo sessions. |
| Current mapfactor Sessions | Total number of current mapfactor sessions. |
| Current mozy Sessions | Total number of current mozy sessions. |
| Current navigon Sessions | Total number of current navigon sessions. |
| Current nokia-store Sessions | Total number of current nokia-store sessions. |
| Current opendrive Sessions | Total number of current opendrive sessions. |
| Current samsung-store Sessions | Total number of current samsung-store sessions. |

| Field | Description |
|---|--|
| Current weibo Sessions | Total number of current weibo sessions. |
| Current windows-azure Sessions | Total number of current windows-azure sessions. |
| Current windows-store Sessions | Total number of current windows-store sessions. |
| Current apple-push Sessions | Total number of current apple-push sessions. |
| Current didi Sessions | Total number of current didi sessions. |
| Current friendster Sessions | Total number of current friendster sessions. |
| Current google-music Sessions | Total number of current google-music sessions. |
| Current google-push Sessions | Total number of current google-push sessions. |
| Current hike-messenger Sessions | Total number of current hike-messenger sessions. |
| Current idrive Sessions | Total number of current idrive sessions. |
| Current kik-messenger Sessions | Total number of current kik-messenger sessions. |
| Current tagged Sessions | Total number of current tagged sessions. |
| Current telegram Sessions | Total number of current telegram sessions. |
| Current xing Sessions | Total number of current xing sessions. |
| Current rhapsody Sessions | Total number of current rhapsody sessions. |
| Current speedtest Sessions | Total number of current speedtest sessions. |
| Current twitch Sessions | Total number of current twitch sessions. |
| Current hbogo Sessions | Total number of current hbogo sessions. |
| Current iheartradio Sessions | Total number of current iheartradio sessions. |
| Current iheartradio unclassified Sessions | Total number of current iheartradio unclassified sessions. |
| Current iheartradio ads Sessions | Total number of current iheartradio ads sessions. |
| Current slacker-radio Sessions | Total number of current slacker-radio sessions. |
| Current slacker-radio unclassified Sessions | Total number of current slacker-radio unclassified sessions. |
| Current slacker-radio ads Sessions | Total number of current slacker-radio ads sessions. |
| Current upc-phone Sessions | Total number of current upc-phone sessions. |
| Current upc-phone unclassified Sessions | Total number of current upc-phone unclassified sessions. |
| Current upc-phone audio Sessions | Total number of current upc-phone audio sessions. |
| Current radio-paradise Sessions | Total number of current radio-paradise sessions. |

| Field | Description |
|------------------------------|---|
| Current beatport Sessions | Total number of current beatport sessions. |
| Current soundcloud Sessions | Total number of current soundcloud sessions. |
| Current amazonmusic Sessions | Total number of current amazonmusic sessions. |
| Current ssl Sessions | Total number of current ssl sessions. |
| Current slingtv Sessions | Total number of current slingtv sessions. |
| Current vessel Sessions | Total number of current vessel sessions. |
| Current Vudu Sessions | Total number of current vudu sessions. |
| Current go90 Sessions | Total number of current go90 sessions. |
| Current Espn Sessions | Total number of current espn sessions. |
| Current Hbonow Sessions | Total number of current hbonow sessions. |
| Current Crackle Sessions | Total number of current crackle sessions. |

show active-charging subscribers full all

Table 88: show active-charging subscribers full all Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Callid | The unique call identifier value. |
| ACSMgr Card/Cpu | Total number of ACS Manager Card/CPU. |
| Active Charging Service name | Name of the Active Charging Service. |
| Active Charging Service Scheme name | Name of the Active Charging service-scheme selected for the particular subscriber. |
| ACSMgr Instance | Total instances of ACS Manager. |
| Number of Sub sessions | Total number of sub-sessions. |
| Data Sessions Active | Total number of active data sessions. |
| Dynamic Routes created | Total number of dynamic routes created. |
| Uplink Bytes | Total number of uplink bytes. |
| Downlink Bytes | Total number of downlink bytes. |
| Uplink Packets | Total number of uplink packets. |
| Downlink Packets | Total number of downlink packets. |

| Field | Description |
|---|---|
| Accel Packets | Total number of accelerated packets. |
| FastPath Packets | Total number of data packets processed in fastpath. |
| Total NRSPCA Requests | Total number of Network Requested Secondary PDP Context Activation (NRSPCA) Requests. |
| NRSPCA Req. Succeeded | Total number of NRSPCA requests succeeded. |
| NRSPCA Req. Failed | Total number of NRSPCA requests failed. |
| Total NRUPC Requests | Total number of Network Requested Update PDP Context (NRUPC) requests. |
| NRUPC Req. Succeeded | Total number of NRUPC requests succeeded. |
| NRUPC Req. Failed | Total number of NRUPC requests failed. |
| Pending NRSPCA Requests | Total number of pending NRSPCA requests. |
| Pending NRUPC Requests | Total number of pending NRUPC requests. |
| Total Bound Dynamic Rules | Total number of bound dynamic rules. |
| Total Bound Predef. Rules | Total number of bound predefined rules. |
| Data Sessions moved | Total number of data sessions moved. |
| Bearers Terminated for no rules | Total number of bearers terminated for no rules. |
| Failed Rulebase Install (unknown bearer-id) | Total number of failed Rulebase installation with failure code —Unknown Bearer ID. |
| Failed Rule Install (unknown bearer-id) | Total number of failed Rule installation with failure code —Unknown Bearer ID. |
| TCP Proxy: | |
| TCP Proxy Flows Requests | Total number of TCP Proxy flow requests. |
| TCP Proxy Flows Request Success | Total number of successful TCP Proxy flow requests. |
| Disable TCP Proxy Flows Requests | Total number of TCP Proxy flow requests disabled. |
| Disable TCP Proxy Flows Success | Total number of successful TCP Proxy flow requests disabled. |
| Current TCP Proxy Flows | Total number of current TCP Proxy flows for the session. |
| Total TCP Proxy Flows | Total number of TCP Proxy flows for the session. |
| TCP-proxy reset for non-SYN flows | Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. |
| Current Flows: | |

| Field | Description |
|-------------------------|---|
| Current IP Flows | Total number of current IP flows. |
| Current ICMP Flows | Total number of current ICMP flows. |
| Current IPv6 Flows | Total number of current IPv6 flows. |
| Current ICMPv6 Flows | Total number of current ICMPv6 flows. |
| Current TCP Flows | Total number of current TCP flows. |
| Current UDP Flows | Total number of current UDP flows. |
| Current HTTP Flows | Total number of current HTTP flows. |
| Current HTTPS Flows | Total number of current HTTPS flows. |
| Current FTP Flows | Total number of current FTP flows. |
| Current POP3 Flows | Total number of current POP3 flows. |
| Current SMTP Flows | Total number of current SMTP flows. |
| Current SIP Flows | Total number of current SIP flows. |
| Current RTSP Flows | Total number of current RTSP flows. |
| Current RTP Flows | Total number of current RTP flows. |
| Current RTCP Flows | Total number of current RTCP flows. |
| Current IMAP Flows | Total number of current IMAP flows. |
| Current WSP-CO Flows | Total number of current WSP-CO flows. |
| Current WSP-CL Flows | Total number of current WSP-CL flows. |
| Current MMS Flows | Total number of current MMS flows. |
| Current DNS Flows | Total number of current DNS flows. |
| Current PPTP-GRE Flows | Total number of current PPTP-GRE flows. |
| Current PPTP Flows | Total number of current PPTP flows. |
| Current P2P Flows | Total number of current P2P flows. |
| Current H323 Flows | Total number of current H323 flows. |
| Current TFTP Flows | Total number of current TFTP flows. |
| Current UNKNOWN Flows | Total number of current UNKNOWN flows. |
| IPNE | Name of the associated IPNE service. |
| Flow Information | |

| Field | Description |
|---|---|
| Subscriptions | Total number of subscriptions. |
| Disabled Notifications | Total number of disabled notifications. |
| NBR Information | |
| Subscriptions | Total number of NBR subscriptions. |
| Disabled Notifications | Total number of disabled notifications for NBR. |
| Usage Information | |
| Notifications | Total number of notifications. |
| UL Bytes Last Reported | Total number of Last Reported uplink bytes. |
| DL Bytes Last Reported | Total number of Last Reported uplink bytes. |
| Packets dropped due to no NAT Port/IP | Total number of packets dropped due to no NAT Port/IP. |
| Packets dropped since Last EDR trigger | Total number of packets dropped since the last EDR trigger. |
| Total packets dropped | Total number of packets dropped. |
| Radio-Congestion Subscriber Full Stats | |
| Last Reported Congestion Level | Indicates the last reported congestion level. |
| Total Flows Analyzed | Total number of flows analyzed. |
| Total Flows Eligible for Correlation | Total number of flows eligible for correlation. |
| Radio-Congestion Session Last Reported Stats | |
| Total Flows Analyzed | Total number of flows analyzed. |
| Total Flows Eligible for Correlation | Total number of flows eligible for correlation. |
| Total Flows with Congestion Level | Total number of flows with congestion level. |
| no Congestion | Total number of flows with no congestion. |
| low Congestion | Total number of flows with low congestion. |
| medium Congestion | Total number of flows with medium congestion. |
| high Congestion | Total number of flows with high congestion. |
| extreme Congestion | Total number of flows with extreme congestion. |
| P2P Plugin Version | Displays the P2P Plugin version. |
| FW-and-NAT Policy | The Stateful Firewall-and-NAT policy name. |
| FW-and-NAT Policy ID | The Stateful Firewall-and-NAT policy identifier. |

| Field | Description |
|---|--|
| Firewall Policy IPv4 | Indicates whether Stateful Firewall IPv4 processing is required for subscriber. |
| Firewall Policy IPv6 | Indicates whether Stateful Firewall IPv6 processing is required for subscriber. |
| NAT Policy NAT44 | Indicates whether NAT44 is enabled or disabled for the subscriber. |
| NAT Policy NAT64 | Indicates whether NAT64 is enabled or disabled for the subscriber. |
| Bypass NAT Flow Present | Indicates whether bypass NAT flow is present or not. |
| No Firewall ruledef(s) match the specified criteria | Stateful Firewall ruledef(s) matching the specified criteria. |
| No Default Firewall ruledef(s) match the specified criteria | Default Stateful Firewall ruledef(s) matching the specified criteria. |
| Predefined Firewall Rules Enabled List | List of enabled predefined Firewall rules. |
| Local-policy RAI/TAI Rules Active List | Displays the list of local-policy rules for RAI/TAI that are currently activated for the subscriber. |
| Total acs subscribers matching specified criteria | Total number of ACS subscribers matching the specified criteria. |
| UIDH received from Server | Specifies the total number of UIDH requests received from the server. |
| Total UIDH Insertions | Specifies the total number of UIDH insertions. |

show active-charging subsystem all

Table 89: show active-charging subsystem all Command Output Descriptions

| Field | Description |
|------------------------|---|
| Total ACS Managers | Total number of Active Charging Service managers running on the system. |
| Session Creation Succ | Total number of sessions created successfully. |
| Session Creation Fail | Total number of session creation failures. |
| Total subscribers | Total number of subscribers configured on system. |
| Current subscribers | Total number of subscriber active on system. |
| Total CF subscribers | Total number of Content Filtering subscribers configured on the system. |
| Current CF subscribers | Total number of Content Filtering subscribers active on the system. |

| Field | Description |
|-------------------------------|---|
| Total Flows Connected | Total number of IPv4 and IPv6 flows connected. |
| Total IPv4 Flows Connected | Total number of IPv4 flows connected. |
| Total IPv6 Flows Connected | Total number of IPv6 flows connected. |
| Total Flows Disconnected | Total number of IPv4 and IPv6 flows disconnected. |
| Total IPv4 Flows Disconnected | Total number of IPv4 flows disconnected. |
| Total IPv6 Flows Disconnected | Total number of IPv6 flows disconnected. |
| Total Uplink Pkts | Total number of IPv4 and IPv6 packets uplinked. |
| Total IPv4 Uplink Pkts | Total number of IPv4 packets uplinked. |
| Total IPv6 Uplink Pkts | Total number of IPv6 packets uplinked. |
| Total Uplink Bytes | Total number of IPv4 and IPv6 bytes uplinked. |
| Total IPv4 Uplink Bytes | Total number of IPv4 bytes uplinked. |
| Total IPv6 Uplink Bytes | Total number of IPv6 bytes uplinked. |
| Total Downlink Pkts | Total number of IPv4 and IPv6 packets downlinked. |
| Total IPv4 Downlink Pkts | Total number of IPv4 packets downlinked. |
| Total IPv6 Downlink Pkts | Total number of IPv6 packets downlinked. |
| Total Downlink Bytes | Total number of IPv4 and IPv6 bytes downlinked. |
| Total IPv4 Downlink Bytes | Total number of IPv4 bytes downlinked. |
| Total IPv6 Downlink Bytes | Total number of IPv6 bytes downlinked. |
| Total ICMP flows | Total number of ICMP flows. |
| Total ICMPv4 flows | Total number of ICMPv4 flows. |
| Total ICMPv6 flows | Total number of ICMPv6 flows. |
| Current ICMP flows | Total number of current ICMP flows. |
| Current ICMPv4 flows | Total number of current ICMPv4 flows. |
| Current ICMPv6 flows | Total number of current ICMPv6 flows. |
| Total TCP flows | Total number of TCP flows. |
| Total TCP over IPv4 flows | Total number of TCP IPv4 flows. |
| Total TCP over IPv6 flows | Total number of TCP IPv6 flows. |
| Current TCP flows | Total number of current TCP flows. |

| Field | Description |
|-----------------------------|---|
| Current TCP over IPv4 flows | Total number of current TCP IPv4 flows. |
| Current TCP over IPv6 flows | Total number of current TCP IPv6 flows. |
| Total UDP flows | Total number of UDP flows. |
| Total UDP over IPv4 flows | Total number of UDP IPv4 flows. |
| Total UDP over IPv6 flows | Total number of UDP IPv6 flows. |
| Current UDP flows | Total number of current UDP flows. |
| Current UDP over IPv4 flows | Total number of current UDP IPv4 flows. |
| Current UDP over IPv6 flows | Total number of current UDP IPv6 flows. |
| Total DNS flows | Total number of DNS flows. |
| Current DNS flows | Total number of current DNS flows. |
| Total FTP flows | Total number of FTP flows. |
| Current FTP flows | Total number of current FTP flows. |
| Total HTTP flows | Total number of HTTP flows. |
| Current HTTP flows | Total number of current HTTP flows. |
| Total HTTPS flows | Total number of HTTPS flows. |
| Current HTTPS flows | Total number of current HTTPS flows. |
| Total POP3 flows | Total number of POP3 flows. |
| Current POP3 flows | Total number of current POP3 flows. |
| Total SMTP flows | Total number of SMTP flows. |
| Current SMTP flows | Total number of current SMTP flows. |
| Total SIP flows | Total number of SIP flows. |
| Current SIP flows | Total number of current SIP flows. |
| Total RTSP flows | Total number of RTSP flows. |
| Current RTSP flows | Total number of current RTSP flows. |
| Total RTP flows | Total number of RTP flows. |
| Current RTP flows | Total number of current RTP flows. |
| Total RTCP flows | Total number of RTCP flows. |
| Current RTCP flows | Total number of current RTCP flows. |

| Field | Description |
|--------------------------------|--|
| Total IMAP flows | Total number of IMAP flows. |
| Current IMAP flows | Total number of current IMAP flows. |
| Total WSP-CO flows | Total number of WSP-CO flows. |
| Current WSP-CO flows | Total number of current WSP-CO flows. |
| Total WSP-CL flows | Total number of WSP-CL flows. |
| Current WSP-CL flows | Total number of current WSP-CL flows. |
| Total MMS flows | Total number of MMS flows. |
| Current MMS flows | Total number of current MMS flows. |
| Total TFTP flows | Total number of TFTP flows. |
| Current TFTP flows | Total number of current TFTP flows. |
| Total PPTP flows | Total number of PPTP flows. |
| Current PPTP flows | Total number of current PPTP flows. |
| Total PPTP-GRE flows | Total number of PPTP-GRE flows. |
| Current PPTP-GRE flows | Total number of current PPTP-GRE flows. |
| Total H323 flows | Total number of H323 flows. |
| Current H323 flows | Total number of current H323 flows. |
| Total MIPv6 flows | Total number of MIPv6 flows. |
| Current MIPv6 flows | Total number of current MIPv6 flows. |
| Total video flows paced | Total number of TCP video flows paced. |
| Current video flows paced | Total number of current TCP video flows paced. |
| Total Rule-Hits | Total number of rule hits. |
| Total Readdr flows | Total number of re-addressed flows. |
| Current Readdr flows | Total number of current re-addressed flows. |
| Total Fastpath flows | Total number of data flows that support fastpath. |
| Total Fastpath pkts | Total number of data packets that have been processed in fastpath. |
| Total Fastpath NAT pkts | Total number of fastpath packets in which NAT was applied. |
| Total Fastpath Firewall pkts | Total number of packets processed by Firewall in fast path. |
| Total Fastpath Bypass NAT pkts | Total number of NAT bypass packets processed in fast path. |

| Field | Description |
|---|---|
| Total Fastpath failures | Total number of packet errors detected during fastpath processing. |
| Last Fastpath Failure | ASCII output indicating the reason the last data flow failed to meet fastpath eligibility requirements. |
| Readdressing Failure Statistics (Packets): | |
| Non SYS Flow | The number of packets failed due to non SYS flow. |
| Duplicate Key | The number of packets failed due to duplicate keys. |
| Dropped Pkts | The number of packets failed due to dropped packets. |
| Total Throttle-Suppressed flows | Total number of flows for which bandwidth limiting is suppressed. |
| Current Throttle-Suppressed flows | Current number of flows for which bandwidth limiting is suppressed. |
| Total P2P Subscribers | Total number of P2P subscribers. |
| Total Firewall Subscribers | Total number of Firewall subscribers. NOTE: This statistic is obsolete in 11.0 and later releases. |
| Total NAT Subscribers | Total number of Network Address Translation subscribers. NOTE: This statistic is obsolete in 11.0 and later releases. |
| Total Blacklisted URL hits | Total number of Blacklisted URL hits. |
| Total Blacklisted URL misses | Total number of Blacklisted URL misses. |
| Total URLs Outstanding for Rating (SRDB) | Total number of URLs outstanding for Static Rating Database rating. |
| Firewall/NAT Subscribers: | |
| Firewall IPv4 Enabled | The total and the active number of subscribers with IPv4 Firewall enabled. |
| Firewall IPv6 Enabled | The total and the active number of subscribers with IPv6 Firewall enabled. |
| NAT44 Enabled | The total and the active number of subscribers with NAT44 enabled. |
| NAT64 Enabled | The total and the active number of subscribers with NAT64 enabled. |
| NAT Enabled | The total and the active number of subscribers with NAT enabled. NOTE: This statistic is available only from releases 11.0 to 12.1. |
| IPv4-PDN-NAT Enabled | The total and the active number of IPv4 PDN subscribers with NAT44 enabled. |

| Field | Description |
|-------------------------------|---|
| IPv6-PDN-NAT Enabled | The total and the active number of IPv6 PDN subscribers with NAT64 enabled. |
| IPv4v6-PDN-NAT Enabled | The total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both NAT44 and NAT64 enabled. |
| IPv4-PDN with NAT IP | The total and the active number of IPv4 PDN subscribers with NAT44 enabled and using at least one NAT IP. |
| IPv6-PDN with NAT IP | The total and the active number of IPv6 PDN subscribers with NAT64 enabled and using at least one NAT IP. |
| IPv4v6-PDN with NAT IP | The total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both, and using at least one NAT IP. |
| Firewall and NAT Enabled | The total and the active number of subscribers with IPv4 or IPv6 Firewall and NAT enabled. |
| NAT flows processed | The total and active number of NAT44 and NAT64 flows processed. |
| NAT44 flows processed | The total and active number of NAT44 flows processed. |
| NAT44 N-1 flows processed | The total and active number of NAT44 N-1 flows processed. |
| NAT44 1-1 flows processed | The total and active number of NAT44 1-1 flows processed. |
| NAT64 flows processed | The total and active number of NAT64 flows processed. |
| NAT64 N-1 flows processed | The total and active number of NAT64 N-1 flows processed. |
| NAT64 1-1 flows processed | The total and active number of NAT64 1-1 flows processed. |
| NAT44 bypass flows | The total and active number of NAT44 bypass flows. |
| NAT64 bypass flows | The total and active number of NAT64 bypass flows. |
| NAT flow-mappings | The total and active number of NAT flow mappings. |
| NAT Packet Statistics: | |
| Total NAT Bypass packets | The total and active number of NAT bypass packets. |
| Total NAT44 Bypass packets | The total and active number of NAT44 bypass packets. |
| Total NAT64 Bypass packets | The total and active number of NAT64 bypass packets. |
| Total NAT packets | The total and active number of NAT packets. |
| Total NAT44 packets | The total and active number of NAT44 packets. |
| Total NAT64 packets | The total and active number of NAT64 packets. |

| Field | Description |
|--|---|
| SIP ALG Calls: | |
| Total SIP ALG calls | Total number of active SIP calls processed by SIP ALG. |
| Current SIP ALG calls | Current number of active SIP calls processed by SIP ALG. |
| Total UDP SIP ALG calls | Total number of SIP UDP calls processed by SIP ALG. |
| Current UDP SIP ALG calls | Current number of SIP UDP calls processed by SIP ALG. |
| Total TCP SIP ALG calls | Total number of SIP TCP calls processed by SIP ALG. |
| Current TCP SIP ALG calls | Current number of SIP TCP calls processed by SIP ALG. |
| Total Number of Unsolicited Downlink packets received | The total number of unsolicited downlink packets received. |
| Total Number of ICMP-HU packets sent | The total number of ICMP-HU packets sent. |
| Fair Usage Statistics: | |
| CPU Credits (used/max) | Number of CPU credits used and maximum number of CPU credits. |
| Dynamic Transrating Statistics: | |
| Flows being Transrated | The number of flows being transrated. |
| Transrating Rejected Due to Lack of Session Mgr Resources: | The number of transrating rejects due to lack of session mgr resources. |
| Total Accepted Flows: | The total number of accepted flows. |
| Total Supported Flows: | The total number of supported flows. |
| Total Sh263 flv: | The total number of Sh263 flv flows. |
| Total H264 flv: | The total number of H264 flv flows. |
| Total H264 mp4: | The total number of H264 mp4 flows. |
| Total Not Suported Flows: | The total number of non supported flows. |
| Total Active Flows: | The total number of active flows. |
| Total Active sh263: | The total number of active sh263 flows. |
| Total Active h264 | The total number of active h264 flows. |
| Total Inactive Flows: | The total number of inactive flows. |
| Total Inactive sh263: | The total number of inactive sh263 flows. |
| Total Inactive h264 | The total number of inactive h264 flows. |
| Total Transrated Flows: | The total number of transrated flows |

| Field | Description |
|---|---|
| Total Transrated sh263 flv: | The total number of transrated sh263 .flv flows |
| Total Transrated h264 flv: | The total number of transrated h264 .flv flows |
| Total Transrated h264 mp4: | The total number of transrated h264 .mp4 flows |
| Total Never Transrated flows: | The total number of never transrated flows |
| Total Never Transrated Due To No Resource: | The total number of never transrated flows due to no resource |
| Total Never Transrated Due To No Congestion: | The total number of never transrated flows due to no congestion |
| RADIUS Prepaid Statistics | Indicates the group of statistics for RADIUS prepaid session. |
| Total prepaid sess | Total number of active/dormant/inactive prepaid sessions. |
| Current prepaid sess | Total number of prepaid sessions currently active. |
| Total prepaid auth req | Total number of AAA authorization requests for prepaid sessions. |
| Total prepaid auth success | Total number of successful AAA authorization for prepaid sessions. |
| Total prepaid auth fail | Total number of failed AAA authorization for prepaid sessions. |
| Total prepaid errors | Total number of errors occurred in prepaid sessions. |
| Content Filtering URL Cache Statistics | Indicates URL caching statistics for Content Filtering. |
| Total cached entries | Total number of cached entries in memory. |
| Total hits | Total number of attempts to access URLs which are cached in memory with rating. |
| Total misses | Total number of attempts failed to access URLs which are cached in memory with rating. |
| Total has-path hits | Total number of attempts to access URLs which are cached in memory with rating with specified path. |
| Total flushes | Total number of flushing of URL cache to clear memory with stale URL list and rating. |
| Total Cache size | Total cache size adding maximum cache size for all volume provided for URLs caching. |
| Percentage Full | Indicates the percentage of memory used out of allocated space for URL caching. |
| Charging-Update Statistics | |
| Total Charging Updates Received | Total number of charging updates received |
| Total Charging Updates Active | Total number of charging updates that are active |

| Field | Description |
|---|--|
| Total Sessions with Charging-Updates Received | Total number of sessions with charging updates received |
| Total Sessions with Charging-Updates Active | Total number of sessions with charging updates active |
| Total Sessions with Charging-Updates Enforced | Total number of sessions with charging updates enforced |
| BW Limit Drop Upl Pkts | Total number of uplink packets dropped due to bearer bandwidth limiting. |
| BW Limit Drop Dnl Pkts | Total number of downlink packets dropped due to bearer bandwidth limiting. |
| BW Limit Drop Upl Bytes | Total number of uplink bytes dropped due to bearer bandwidth limiting. |
| BW Limit Drop Dnl Bytes | Total number of downlink bytes dropped due to bearer bandwidth limiting. |
| BW Limit Mark Upl Pkts | Total number of uplink packets marked due to bearer bandwidth limiting. |
| BW Limit Mark Dnl Pkts | Total number of downlink packets marked due to bearer bandwidth limiting. |
| CC Dropped Uplink Packets | Total number of packets dropped by credit control in uplink direction at a system level. |
| CC Dropped Uplink Bytes | Total number of bytes dropped by credit control in uplink direction at a system level |
| CC Dropped Downlink Packets | Total number of packets dropped by credit control in downlink direction at a system level. |
| CC Dropped Downlink Bytes | Total number of bytes dropped by credit control in downlink direction at a system level. |
| FlowStatus Readdress Upl Bytes | |
| FlowStatus Readdress Dnl Bytes | |
| FlowStatus Term Sess Upl Pkts | |
| FlowStatus Term Sess Dnl Pkts | |
| FlowStatus Term Flow Upl Pkts | |
| FlowStatus Term Flow Dnl Pkts | |
| FlowStatus Term Flow Upl Bytes | |
| FlowStatus Term Flow Dnl Bytes | |
| FlowStatus Readdress Upl | |

| Field | Description |
|---|--|
| FlowStatus Readdress Dnl Pkts | |
| FlowStatus Readdress Upl Bytes | |
| FlowStatus Readdress Dnl Bytes | |
| Total Control Pkts | Total number of control packets received. |
| Total Control Pkts Tx | Total number of control packets transmitted.. |
| PCP Service Statistics: | |
| Important The PCP Service statistics are customer specific. For more information, contact your Cisco account representative. | |
| Total PCP Subscribers | Total number of PCP enabled subscribers. |
| Current PCP Subscribers | Current number of PCP enabled subscribers. |
| IPv4 | |
| Total PCP Requests | Total number of request packets received for the PCP service. |
| Total PCP Responses | Total number of PCP Responses sent by the PCP service. |
| Total Unknown Requests | Total number of PCP Responses sent by the PCP service for unknown PCP Requests. |
| Total Invalid Requests | Total number of PCP Responses sent by the PCP service for invalid PCP Requests. |
| Opcode Statistics | |
| Total Requests | Total number of PCP MAP/PEER/ANNOUNCE requests received for the PCP service. |
| Valid Requests | Total number of valid PCP MAP/PEER/ANNOUNCE requests received for the PCP service. |
| Invalid Requests | Total number of invalid PCP MAP/PEER/ANNOUNCE requests received for the PCP service. |
| Total Responses | Total number of PCP MAP/PEER/ANNOUNCE responses sent by the PCP service. |
| Success Responses | Total number of successful PCP MAP/PEER/ANNOUNCE responses sent for the PCP service. |
| Error Responses | Total number of error PCP MAP/PEER/ANNOUNCE responses sent by the PCP service. |
| Data statistics | |
| Receive Pkts | Total number of packets received in different size based frequency |

| Field | Description |
|------------------------|---|
| Transmit pkts | Total number of packets transmitted in different size based frequency |
| User Data statistics | Indicates the group of statistics of user data traffic. |
| Data octets from User | Total number of bytes originated from user. |
| Data packets from User | Total number of data packets originated from user. |
| Data octets to User | Total number of bytes sent to user. |
| Data packets to User | Total number of data packets sent to user. |

show active-charging subsystem facility acsmgr instance

Table 90: show active-charging subsystem facility acsmgr instance Command Output Descriptions

| Field | Description |
|--------------------------|---|
| ACSMgr Instance | The ACS Manager instance. |
| Card/CPU | The card and CPU ID. |
| Session Creation Succ | Total number of sessions created successfully. |
| Session Creation Fail | Total number of session creation failures. |
| Total subscribers | Total number of subscribers configured on system. |
| Current subscribers | Total number of subscriber active on system. |
| Total CF subscribers | Total number of Content Filtering subscribers configured on the system. |
| Current CF subscribers | Total number of Content Filtering subscribers active on the system. |
| Total Flows Connected | Total number of flows connected. |
| Total Flows Disconnected | Total number of flows disconnected. |
| Total Uplink Pkts | Total number of packets uplinked. |
| Total Uplink Bytes | Total number of bytes uplinked. |
| Total Downlink Pkts | Total number of packets downlinked. |
| Total Downlink Bytes | Total number of bytes downlinked. |
| Total ICMP flows | Total number of ICMP flows. |

| Field | Description |
|----------------------|---------------------------------------|
| Current ICMP flows | Total number of current ICMP flows. |
| Total ICMPv6 flows | Total number of ICMPv6 flows. |
| Current ICMPv6 flows | Total number of current ICMPv6 flows. |
| Total TCP flows | Total number of TCP flows. |
| Current TCP flows | Total number of current TCP flows. |
| Total UDP flows | Total number of UDP flows. |
| Current UDP flows | Total number of current UDP flows. |
| Total DNS flows | Total number of DNS flows. |
| Current DNS flows | Total number of current DNS flows. |
| Total FTP flows | Total number of FTP flows. |
| Current FTP flows | Total number of current FTP flows. |
| Total HTTP flows | Total number of HTTP flows. |
| Current HTTP flows | Total number of current HTTP flows. |
| Total HTTPS flows | Total number of HTTPS flows. |
| Current HTTPS flows | Total number of current HTTPS flows. |
| Total POP3 flows | Total number of POP3 flows. |
| Current POP3 flows | Total number of current POP3 flows. |
| Total SMTP flows | Total number of SMTP flows. |
| Current SMTP flows | Total number of current SMTP flows. |
| Total SIP flows | Total number of SIP flows. |
| Current SIP flows | Total number of current SIP flows. |
| Total RTSP flows | Total number of RTSP flows. |
| Current RTSP flows | Total number of current RTSP flows. |
| Total RTP flows | Total number of RTP flows. |
| Current RTP flows | Total number of current RTP flows. |
| Total RTCP flows | Total number of RTCP flows. |
| Current RTCP flows | Total number of current RTCP flows. |
| Total IMAP flows | Total number of IMAP flows. |

| Field | Description |
|--|---|
| Current IMAP flows | Total number of current IMAP flows. |
| Total WSP-CO flows | Total number of WSP-CO flows. |
| Current WSP-CO flows | Total number of current WSP-CO flows. |
| Total WSP-CL flows | Total number of WSP-CL flows. |
| Current WSP-CL flows | Total number of current WSP-CL flows. |
| Total MMS flows | Total number of MMS flows. |
| Current MMS flows | Total number of current MMS flows. |
| Total TFTP flows | Total number of TFTP flows. |
| Current TFTP flows | Total number of current TFTP flows. |
| Total PPTP flows | Total number of PPTP flows. |
| Current PPTP flows | Total number of current PPTP flows. |
| Total PPTP-GRE flows | Total number of PPTP-GRE flows. |
| Current PPTP-GRE flows | Total number of current PPTP-GRE flows. |
| Total H323 flows | Total number of H323 flows. |
| Current H323 flows | Total number of current H323 flows. |
| Total P2P flows | Total number of P2P flows. |
| Current P2P flows | Total number of current P2P flows. |
| Total Rule-Hits | Total number of rule hits. |
| Blacklisted URL hits | The number of Blacklisted URL hits. |
| Blacklisted URL misses | The number of Blacklisted URL misses. |
| Total URLs Outstanding for Rating (SRDB) | Total number of URLs outstanding for Static Rating Database rating. |
| Total Fastpath Firewall pkts | Total number of packets processed by Firewall in fast path. |
| Total Fastpath Bypass NAT pkts | Total number of NAT bypass packets processed in fast path. |
| Firewall/NAT Subscribers: | |
| Firewall IPv4 Enabled | Displays the total and the active number of subscribers with IPv4 Firewall enabled. |
| Firewall IPv6 Enabled | Displays the total and the active number of subscribers with IPv6 Firewall enabled. |

| Field | Description |
|---------------------------|--|
| NAT44 Enabled | Displays the total and the active number of subscribers with NAT44 enabled. |
| NAT64 Enabled | Displays the total and the active number of subscribers with NAT64 enabled. |
| IPv4-PDN-NAT Enabled | Displays the total and the active number of IPv4 PDN subscribers with NAT44 enabled. |
| IPv6-PDN-NAT Enabled | Displays the total and the active number of IPv6 PDN subscribers with NAT64 enabled. |
| IPv4v6-PDN-NAT Enabled | Displays the total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both NAT44 and NAT64 enabled. |
| IPv4-PDN with NAT IP | Displays the total and the active number of IPv4 PDN subscribers with NAT44 enabled and using at least one NAT IP. |
| IPv6-PDN with NAT IP | Displays the total and the active number of IPv6 PDN subscribers with NAT64 enabled and using at least one NAT IP. |
| IPv4v6-PDN with NAT IP | Displays the total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both, and using at least one NAT IP. |
| Firewall and NAT Enabled | Displays the total and the active number of subscribers with IPv4 or IPv6 Firewall and NAT enabled. |
| NAT flows processed | Displays the total and active number of NAT44 and NAT64 flows processed. |
| NAT44 flows processed | Displays the total and active number of NAT44 flows processed. |
| NAT44 N-1 flows processed | Displays the total and active number of NAT44 N-1 flows processed. |
| NAT44 1-1 flows processed | Displays the total and active number of NAT44 1-1 flows processed. |
| NAT64 flows processed | Displays the total and active number of NAT64 flows processed. |
| NAT64 N-1 flows processed | Displays the total and active number of NAT64 N-1 flows processed. |
| NAT64 1-1 flows processed | Displays the total and active number of NAT64 1-1 flows processed. |
| NAT44 bypass flows | Displays the total and active number of NAT44 bypass flows. |
| NAT64 bypass flows | Displays the total and active number of NAT64 bypass flows. |

| Field | Description |
|--|---|
| RADIUS Prepaid Statistics: | |
| Indicates the group of statistics for RADIUS prepaid session. | |
| Total prepaid sess | Total number of active/dormant/inactive prepaid sessions. |
| Current prepaid sess | Total number of prepaid sessions currently active. |
| Total prepaid auth req | Total number of AAA authorization requests for prepaid sessions. |
| Total prepaid auth success | Total number of successful AAA authorization for prepaid sessions. |
| Total prepaid auth fail | Total number of failed AAA authorization for prepaid sessions. |
| Total prepaid errors | Total number of errors occurred in prepaid sessions. |
| Max flows per-session Statistics: | |
| Indicates the group of statistics for the maximum number of simultaneous flows seen per session. | |
| Max Flows seen | The maximum number of simultaneous flows seen by the instance on a session. |
| IMSI | Indicates the International Mobile Subscriber Identity (IMSI). |
| Max Flows seen at | Lists the date and time at which the flows were seen. |
| Content Filtering Policy <policy> for Service <service> Matched | |
| Content Filtering URL Cache Statistics | |
| Indicates the group of statistics of URL caching for content filtering service. | |
| Total cached entries | Total number of cached entries in memory. |
| Total hits | Total number of attempts to access URLs which are cached in memory with rating. |
| Total misses | Total number of attempts failed to access URLs which are cached in memory with rating. |
| Total has-path hits | Total number of attempts to access URLs which are cached in memory with rating with specified path. |
| Total flushes | Total number of flushing of URL cache to clear memory with stale URL list and rating. |
| Total Cache size (all volumes) | Total cache size adding maximum cache size for all volume provided for URLs caching. |
| Percentage Full | Indicates the percentage of memory used out of allocated space for URL caching. |
| Last Flush request received time | Indicates the time of last flush request received for cache flushing. |

| Field | Description |
|--------------------------|--|
| Volume - <volume> | The volume. |
| Cached entries | For the volume, indicates the total number of cached entries in memory. |
| Hits | For the volume, indicates the total number of attempts failed to access URLs which are cached in memory with rating. |
| Misses | For the volume, indicates the total number of attempts failed to access URLs which are cached in memory with rating. |
| has-path hits | For the volume, indicates the total number of attempts to access URLs which are cached in memory with rating with specified path. |
| Flushes | For the volume, indicates the total number of times the URL cache has been flushed to clear memory with stale URL list and rating. |
| Percentage Full | For the volume, indicates the percentage of memory used out of allocated space for URL caching. |
| Last Access Time | For the volume, indicates the last access time. |
| Last Flush Time | For the volume, indicates the last flush time. |
| Data statistics | |
| Receive Pkts | Total number of packets received. |
| Transmit Pkts | Total number of packets transmitted. |

show tcp-acceleration statistics sessmgr all

Table 91: show tcp-acceleration statistics sessmgr all Command Output Descriptions

| Field | Description |
|-----------------------------|---|
| TCP acceleration Statistics | Specifies the TCP Acceleration Statistics |
| Total Accelerated Flows | Specifies the total number of accelerated flows. |
| Current Accelerated Flows | Specifies the current number of accelerated flows. |
| Released Accelerated Flows | Specifies the total number of released accelerated flows. |
| Rejected Accelerated Flows | Specifies the total number of accelerated flows rejected. |

| Field | Description |
|---|--|
| Feature Not Supported | Specifies the flow rejected with the "Feature Not Supported" reason |
| RAT Type Not Supported | Specifies the flow rejected with the "RAT Type Not Supported" reason |
| Bearer Not Supported | Specifies the flow rejected with the "Bearer Not Supported" reason |
| Resource Not Available (Memory) | Specifies the flow rejected with the "Resource Not Available (Memory)" reason |
| Resource Not Available (CPU) | Specifies the flow rejected with the "Resource Not Available (CPU)" reason |
| Others | Specifies the flow rejected for other reasons. |
| Data Statistics | |
| IPv4 (User-Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv4 TCP accelerated packets received from the UE and internet. |
| Total Bytes Rx | Indicates the total number of IPv4 TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv4 TCP accelerated packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv4 TCP accelerated bytes sent towards the UE and internet. |
| IPv4 (User-Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv6 TCP accelerated packets received from the UE and internet. |
| Total Bytes Rx | Indicates the total number of IPv6 TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv6 TCP accelerated packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv6 TCP accelerated bytes sent towards the UE and internet. |
| Data Statistics > IPv4 HTTP (User Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv4 HTTP TCP accelerated packets received from the UE and internet. |

| Field | Description |
|--|---|
| Total Bytes Rx | Indicates the total number of IPv4 HTTP TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv4 TCP accelerated HTTP packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv4 HTTP TCP accelerated bytes sent towards the UE and internet. |
| Retrans Pkts Rx | Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV4 HTTP flows. |
| Retrans Bytes Rx | Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV4 HTTP flows. |
| Retrans Pkts Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTP flows. |
| Retrans Bytes Tx | Indicates the total number of bytes retransmitted towards the UE and internet for TCP accelerated IPV4 HTTP flows. |
| Data Statistics > IPv4 HTTPS (User Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv4 HTTPS TCP accelerated packets received from the UE and internet. |
| Total Bytes Rx | Indicates the total number of IPv4 HTTPS TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv4 TCP accelerated HTTPS packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv4 HTTPS TCP accelerated bytes sent towards the UE and internet. |
| Retrans Pkts Rx | Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV4 HTTPS flows. |
| Retrans Bytes Rx | Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV4 HTTPS flows. |
| Retrans Pkts Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTPS flows. |

| Field | Description |
|--|---|
| Retrans Bytes Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTPS flows. |
| Data Statistics > IPv6 HTTP (User Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv6 HTTP TCP accelerated packets received from the UE and internet. |
| Total Bytes Rx | Indicates the total number of IPv6 HTTP TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv6 TCP accelerated HTTP packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv6 HTTP TCP accelerated bytes sent towards the UE and internet. |
| Retrans Pkts Rx | Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV6 HTTP flows. |
| Retrans Bytes Rx | Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV6 HTTP flows. |
| Retrans Pkts Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTP flows. |
| Retrans Bytes Tx | Indicates the total number of bytes retransmitted towards the UE and internet for TCP accelerated IPV6 HTTP flows. |
| Data Statistics > IPv6 HTTPS (User Side and Inet Side) | |
| Total Pkts Rx | Indicates the total number of IPv6 HTTPS TCP accelerated packets received from the UE and internet. |
| Total Bytes Rx | Indicates the total number of IPv6 HTTPS TCP accelerated bytes received from the UE and internet. |
| Total Pkts Tx | Indicates the total number of IPv6 TCP accelerated HTTPS packets sent towards the UE and internet. |
| Total Bytes Tx | Indicates the total number of IPv6 HTTPS TCP accelerated bytes sent towards the UE and internet. |
| Retrans Pkts Rx | Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV6 HTTPS flows. |

| Field | Description |
|------------------|---|
| Retrans Bytes Rx | Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV6 HTTPS flows. |
| Retrans Pkts Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTPS flows. |
| Retrans Bytes Tx | Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTPS flows. |

show active-charging tcp-proxy statistics all verbose

Table 92: show active-charging tcp-proxy statistics all verbose Command Output Descriptions

| Field | Description |
|-----------------------------------|---|
| TCP Proxy Stack Statistics | |
| Statistics | |
| Cumulative Statistics | |
| Total Pkts to Stack | Total number of packets received by stack. |
| Total Bytes to Stack | Total number of bytes received by stack. |
| Total Pkts from Stack | Total number of packets sent from stack. |
| Total Bytes from Stack | Total number of bytes sent from stack. |
| API Statistics | |
| Total Sockets Opened | Total number of sockets opened. |
| Socket Open Failed | Total number of sockets open failures. |
| Total Connect Attempts | Total number of connection attempts. |
| Total Listening Sockets | Total number of sockets listening. |
| Socket Listening Failed | Total number of sockets listening failures. |
| Socket Bind Success | Total number of socket binds successful. |
| Socket Accept Success | Total number of socket accepts successful. |
| Socket Accept Failed | Total number of socket accept failures. |
| Total Send Success | Total number of sends successful. |

| Field | Description |
|-----------------------------|---|
| Total Send Failed | Total number of send failures. |
| Total Send Partial Succ | Total number of sends partially successful. |
| Total SendTo Success | Total number of send to successful. |
| Total SendTo Failed | Total number of send to failures. |
| Total SendTo Partil Succ | Total number of send to partially successful. |
| Total Recv Attempted | Total number of Recv attempted. |
| Total Recv Fail | Total number of Recv failures. |
| Total RecvFrom Attempted | Total number of RecvFrom attempted. |
| Total RecvFrom Fail | Total number of RecvFrom failures. |
| Current Open Sockets | Total number of sockets currently open. |
| IP Layer Statistics | |
| Total Pkts Recvd at IP | Total number of packets received at IP layer. |
| Header Errors | Total number of IP header errors. |
| Unknown Protocol | Total number of unknown IP protocol errors. |
| Incoming Discarded Pkts | Total number of incoming packets discarded. |
| Outgoing Requests | Total number of outgoing requests. |
| Outgoing Discarded Pkts | Total number of outgoing discarded packets. |
| Reassembly Timeouts | Total number of reassembly timeouts. |
| Reassembly Success | Total number of IP datagrams that were reassembled successfully. |
| Fragmentation Success | Total number of IP datagrams that were fragmented successfully. |
| Fragmentation Fails | Total number of IP datagrams that were discarded due to fragmentation failures. |
| Fragments Created | Total number of fragments created. |
| TCP Layer Statistics | |
| Incoming TCP Segments | Total number of incoming segments received at TCP layer. |
| Incoming TCP Bytes | Total number of incoming bytes received at TCP layer. |
| Incoming TCP Error Seg | Total number of incoming segments containing some error. |
| In TCP Retrans Seg | Total number of incoming TCP retransmitted segments. |

| Field | Description |
|--|--|
| In TCP Retrans Byte | Total number of incoming TCP retransmitted bytes. |
| Outgoing TCP Data Seg | Total number of outgoing TCP segments having some data. |
| Outgoing TCP Reset Seg | Total number of outgoing TCP resets. |
| Outgoing TCP Retrans Seg | Total number of packets retransmitted by the stack. |
| In TCP Partial Retr Seg | Total number of incoming TCP partial retransmitted segments. |
| In TCP Partial Retr Byte | Total number of incoming TCP partial retransmitted bytes. |
| In TCP OOO Segments | Total number of incoming TCP Out-of-Order segments. |
| In TCP OOO Bytes | Total number of incoming TCP Out-of-Order bytes. |
| In TCP OOO+Retrans Seg | Total number of incoming TCP Out-of-Order+retransmitted segments. |
| In TCP OOO+Retrans Bytes | Total number of incoming TCP Out-of-Order+retransmitted bytes. |
| In TCP OOO Succ Seg | Total number of incoming TCP Out-of-Order Succ segments. |
| In TCP OOO Succ Bytes | Total number of incoming TCP Out-of-Order Succ bytes. |
| In TCP Csum Err Seg | Total number of incoming TCP checksum error segments. |
| In TCP Csum Err Bytes | Total number of incoming TCP checksum error bytes. |
| Active Open | Total number of active connections initiated by the stack. |
| Passive Open | Total number of connections accepted by the stack. |
| Connection Failure | Total number failed connections. |
| Reset in Est State | Total number of resets received in Established state. |
| Current Est Connections | Total number of active established connections. |
| TCP Proxy Statistics for Rulebase | |
| Cumulative TCP proxy Statistics for Rulebase: | |
| Total Proxy Flows | Total number of TCP Proxy flows in this rulebase. |
| Current Proxy Flows | Total no of current TCP Proxy flows in this rulebase. |
| Uplink TCP Proxy: | |
| Pkts received from uplink | Total number of uplink packets on Gn interface. |
| Pkts forwarded to application | Total number uplink packets forwarded by stack to TCP Proxy application. |

| Field | Description |
|--|---|
| Pkts received from application | Total number uplink packets received from TCP Proxy application to stack. |
| Pkts for transmission to uplink | Total number uplink packets sent by stack on Gi interface. |
| Pkts received after connection with server | Total number uplink packets received after connection with server. |
| Pkts received before connection with server | Total number uplink packets received before connection with server. |
| Number of connect tried | Total number times the connect was called. |
| Downlink TCP Proxy: | |
| Pkts received from downlink | Total number of downlink packets on Gi interface. |
| Pkts forwarded to application | Total number downlink packets forwarded by stack to TCP Proxy application. |
| Pkts received from application | Total number downlink packets received from TCP Proxy application to stack. |
| Pkts for transmission to downlink | Total number downlink packets from application on Gn interface. |
| Pkts received after connection with client | Total number of downlink packets received after connection with client. |
| Pkts received before connection with client | Total number downlink packets received before connection with client. |
| Number of connect tried | Total number times the connect was called. |
| Downlink and uplink TCP proxy events: | |
| Total received failed | Total number of Recv calls failed. |
| Total error received | Total number of socket errors. |
| Total reset received | Total number of RESETs received (both from Gn and Gi side). |
| Total remote closed received | Total number of Remote Close events occurred (both from Gn and Gi side). |
| Total close complete received | Total number of Remote Close Complete events occurred (both from Gn and Gi side). |
| Total accept received | Total number of accept events received (both from Gn and Gi side). |
| Total accept failed | Total number of accept requests failed. |
| Total registerCB failed | Total number of calls to registerCB function failed. |
| Total recv occurred | Total number of Recv events occurred. |

| Field | Description |
|---|--|
| Total connect complete received | Total number of connect complete events occurred. |
| Total send failed | Total number of calls to send function failed. |
| Proxy Session counters: | |
| Current Connecting Conn (AO on GN) | Total number of current connecting connections active open on GN. |
| Current Connecting Conn (AO on GI) | Total number of current connecting connections active open on GI. |
| Current Connected Conn (AO on GN) | Total number of current connected connections active open on GN. |
| Current Connected Conn (AO on GI) | Total number of current connected connections active open on GI. |
| Current Un-Accepted Conn (PO on GN) | Total number of current unaccepted connections passive open on GN. |
| Current Un-Accepted Conn (PO on GI) | Total number of current unaccepted connections passive open on GI. |
| Current Accepted Conn (PO on GN) | Total number of current accepted connections passive open on GN. |
| Current Accepted Conn (PO on GI) | Total number of current accepted connections passive open on GI. |
| Current EST conn on both side | Total number of current EST connections on both side. |
| Total PO Succ on GN | Total number of passive open successful on GN. |
| Total AO Succ on GI | Total number of active open successful on GI. |
| Total PO Succ on GI | Total number of passive open successful on GI. |
| Total AO Succ on GN | Total number of active open successful on GN. |
| Flows not proxied - Proxy flow limit | Total number of flows not proxied due to proxy flow limit. |
| Flows not proxied - Backlog limit | Total number of flows not proxied due to backlog limit. |
| Flows not proxied - Gn sock limit | Total number of flows not proxied due to Gn sock limit. |
| Flows not proxied - Gi sock limit | Total number of flows not proxied due to Gi sock limit. |
| Flows cleared - incomplete active open | Total number of flows cleared due to incomplete active open. |
| Flows cleared - incomplete passive open | Total number of flows cleared due to incomplete passive open. |
| Proxy Error counters: | |

| Field | Description |
|---------------------|---|
| Socket Open Failed | Socket open failed statistics on Gn and Gi. |
| Socket Error Events | Socket error event statistics on Gn and Gi. |

show active-charging tcp-proxy statistics socket-migration

Table 93: show active-charging tcp-proxy statistics socket-migration Command Output Descriptions

| Field | Description |
|------------------------------------|---|
| Socket Migration Statistics | |
| Cumulative Statistics | |
| Total Flows Initialized | Total number of flows for which Socket Migration was initialized. |
| Total Flows Migration Attempt | Total number of flows for which socket migration was started. |
| Total Flows Success | Total number of flows for which socket migration was successful. |
| Total Flows Failed | Total number of flows for which socket migration failed with reason. |
| Memory Alloc Failed | Total number of flows for which socket migration failed due to memory allocation failure. |
| Permission Denied | Total number of flows for which socket migration failed due to permission denials. |
| Possible TCP State Change | Total number of flows for which socket migration failed due to possible TCP state change. |
| Pkt Trimming Failed | Total number of flows for which socket migration failed due to packet trimming failures. |
| Others | Total number of flows for which socket migration failed due to other reasons. |
| Total Pkts Trimmed | Total number of packets trimmed during stabilization phase. |
| Current Statistics | |
| Current Socket Migrated Flows | Number of current flows for which socket migration is activated. |
| Flows in Init State | Number of current flows that are in Init state. |
| Flows in Pre-mig State | Number of current flows that are in Pre-migration state. |
| Flows in Mig Started State | Number of current flows that are in Migration Started state. |
| Flows in Post-Mig State | Number of current flows that are in Post Migration state. |

| Field | Description |
|-------------------------|--|
| Flows in Mig-Done State | Number of current flows that are in Migration Completed state. |
| Flows in Cant-Do State | Number of current flows that are in Migration Can't be Done state. |

show active-charging tethering-detection database sessmgr all

Table 94: show active-charging tethering-detection database sessmgr all Command Output Descriptions

| Field | Description |
|----------------------------|--|
| SMgr Instance | Instance number of the session manager. |
| TAC Database | |
| Source File | Location of the TAC database file. |
| Database Status | Status of the database. |
| Version | Version of the database used. |
| Number of entries in DB | Total number of entries in the TAC database. |
| Last Upgrade Status | Last upgrade status of the TAC database. |
| OS Database | |
| Source File | Location of the IPv4 OS Signature database file. |
| Database Status | Status of the database. |
| Version | Version of the database used. |
| Number of signatures in DB | Total number of IPv4 OS signatures in the database. |
| Last Upgrade Status | Last upgrade status of the IPv4 OS signature database. |
| OS Database-IPv6 | |
| Source File | Location of the IPv6 OS Signature database file. |
| Database Status | Status of the database. |
| Version | Version of the database used. |
| Number of signatures in DB | Total number of IPv6 OS signatures in the database. |
| Last Upgrade Status | Last upgrade status of the IPv6 OS signature database. |
| UA Database | |

| Field | Description |
|----------------------------|---|
| Source File | Location of the UA signature database file. |
| Database Status | Status of the database. |
| Version | Version of the database used. |
| Number of signatures in DB | Total number of UA signatures in the database. |
| Last Upgrade Status | Last upgrade status of the UA signature database. |

show active-charging tethering-detection statistics

Table 95: show active-charging tethering-detection statistics Command Output Descriptions

| Field | Description |
|---|--|
| Current Tethered Subscribers | Total number of tethered subscribers at a particular time. |
| Total flows scanned | Total number of flows scanned. |
| Total Tethered flows detected | Total number of tethered flows detected. |
| Total Tethered flows recovered | Total number of tethered flows recovered. |
| Total flows bypassed for scanning | Total number of flows that were bypassed for tethering with the configured interface ID. |
| Tethering Detection Statistics (os-ua) | |
| TAC ID lookups | Total number of TAC ID lookups. |
| TAC ID matches | Total number of TAC ID matches. |
| OS signature lookups | Total number of OS signature lookups. |
| OS signature matches | Total number of OS signature matches. |
| IPv6 OS signatures lookups | Total number of IPv6 OS signature lookups. |
| IPv6 OS signatures matches | Total number of IPv6 OS signature matches. |
| UA signature lookups | Total number of UA signature lookups. |
| UA signature matches | Total number of UA signature matches. |
| Total flows scanned | Total number of flows scanned. |
| Tethered flows detected | Total number of tethered flows detected. |
| Non-tethered flows detected | Total number of non-tethered flows detected. |
| Tethered Uplink Packets | Total number of uplink packets for tethered flows. |

| Field | Description |
|--|---|
| Tethered Downlink Packets | Total number of downlink packets for tethered flows. |
| Current tethering-detected indications sent | Current number of tethering-detected indications sent. |
| Total tethering-detected indications sent | Total number of tethering-detected indications sent. |
| Tethering Detection Statistics (ip-ttl) | |
| Total flows scanned | Total number of flows scanned. |
| Tethered flows detected | Total number of tethered flows detected. |
| Tethered uplink packets | Total number of uplink packets for tethered flows. |
| Tethered downlink packets | Total number of downlink packets for tethered flows. |
| Change Statistics for Multiple SYN in Flow: | |
| Tethered to Non-Tethered | This counter is updated when previous SYN has tethered signature and new SYN has non-tethered signature. |
| Non-Tethered to Tethered | This counter is updated when previous SYN has non-tethered signature and new SYN has tethered signature. |
| Tethered to Tethered | This counter is updated when previous SYN has tethered signature and new SYN also has tethered signature. |
| Non-Tethered to Non-Tethered | This counter is updated when previous SYN has non-tethered signature and new SYN also has non-tethered signature. |

show active-charging timedef all

Table 96: show active-charging timedef all Command Output Descriptions

| Field | Description |
|--------------|--|
| Service Name | Name of the Active Charging Service. |
| Timedef Name | Name of the time definition. |
| Start Day | Start day configured for each timeslot in the timedef. If the day is not configured, shows "Daily". |
| Start Time | Start time configured for each timeslot in the timedef. |
| End Day | End day configured for each timeslot in the timedef. If the day is not configured, shows "Daily". |
| End Time | End time configured for each timeslot in the timedef. |

| Field | Description |
|------------------------|-------------------------------------|
| Total timedef(s) found | The total number of timedefs found. |

show active-charging tpo profile statistics name

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging traffic-optimization policy

Table 97:

| Field | Description |
|-----------------------|--|
| Policy Name | Identifies the configured policy name |
| Policy-Id | Identifies the policy ID value pretaing to a policy |
| Bandwidth-Mgmt | Displays the bandwidth management parameters. |
| Backoff-Profile | Displays the overall aggressiveness of the back off rates. |
| Min-Effective-Rate | Displays the effective shaping rate in Kbps. |
| Min-Flow-Control-Rate | Displays the minimum rate allowed in Kbps, to control the flow of heavy session flows during congestiton. |
| Curbing-Control | Displays the curbing control related parameters. |
| Time | Displays the duration of the flow control phase. |
| Rate | Displays the curbing flow control at a fixed rate in Kbps. |
| Max-phases | Displays the maximum phases where the target shaping rate is below threshold-rate to trigger curbing flow control. |
| Threshold-Rate | Displays the minimum target shaping rate in Kbps |
| Heavy-Session | Displays heavy-session detection parameters. |
| Threshold | Displays heavy-session detection threshold in bytes. On reaching the threshold, flows will be monitored and potentially managed. |
| Standard-Flow-Timeout | Displays the idle-timeout in milliseconds. |
| Link-Profile | Displays the link profile parameters. |

| Field | Description |
|----------------|--|
| Initial-Rate | Displays the initial seed value of the acquired peak rate in Kbps for a traffic session. |
| Max-Rate | Displays the maximum peak rate in Kbps for a traffic session. |
| Peak-Lock | Displays the link peak rate. |
| Session-Params | Displays session parameters. |
| Tcp-Ramp-Up | Displays the ramp up phase duration for TCP traffic. |
| Udp-Ramp-Up | Displays the ramp up phase duration for UDP traffic. |

show active-charging trigger-action all

Table 98: show active-charging trigger-action all Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Service Name | Name of the Active Charging Service. |
| Trigger-Action | Name of the configured trigger action. |
| HTTP Response Based TRM | Display the specified HTTP method(s) that has response-based TRM applied. Else displays "all" if all HTTP methods are configured and "none" if no HTTP method is configured. |
| HTTP Response Based Charging | Displays the specified HTTP method(s) that has response-based charging applied. Else displays "all" if all HTTP methods are configured and "none" if no HTTP method is configured. |
| Throttle Suppress | Indicates whether suppress throttling is enabled or disabled. |
| Flow recovery | Indicates whether flow recovery is enabled or disabled. |
| Traffic Optimization | Indicates whether traffic optimization is enabled or disabled. |
| Step Up GBR | Indicates the step-up value of GBR. |
| Step Down GBR | Indicates the step-down value of GBR. |
| TCP Acceleration | Indicates whether the TCP acceleration is enabled or disabled. |
| TCP Acceleration Threshold | Indicates if the TCP acceleration threshold is enabled or disabled. |
| Service-Chain | Indicates the name of the assigned service chain. |
| Total trigger action(s) found | Total number of configured trigger actions. |

show active-charging trigger-condition all

Table 99: show active-charging trigger-condition all Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| Service Name | Name of the Active Charging Service. |
| Trigger-Condition | Name of the configured trigger condition. |
| Trigger Action Delay | Displays the delay (in seconds)for application of action |
| Any-Match | Displays the condition specified for any-match. |
| Local-policy Rule Name | Displays the name of the configured local-policy (LP) rule. |
| Rule-name/GOR | Displays the condition specified for a particular rule/GoR for flow checkpoint. |
| Multi-line-OR All lines | Indicates whether the OR operator applied to all lines in a trigger-condition is enabled or disabled. |
| Total trigger condition(s) found | Total number of configured trigger conditions. |
| Post-Processing Rule-name/GOR | Specifies the post processing rule name. |
| Flow-Length Threshold exceed | Indicates when the flow-length of a TCP flow has exceeded the configured threshold value. |

show active-charging udr-format all

Table 100: show active-charging udr-format all Command Output Descriptions

| Field | Description |
|---------------------------|--|
| Service Name | Name of the Active Charging Service. |
| UDR Format Name | Name of the configured UDR format. |
| Attribute | Attribute information configured in specific UDR format. |
| Total udr-format(s) found | The total number of the configured UDR formats. |

show active-charging url-blacklisting statistics

Table 101: show active-charging url-blacklisting statistics Command Output Descriptions

| Field | Description |
|---|---|
| Service name | Name of the Active Charging Service. |
| Cumulative URL-Blacklisting Statistics | |
| Total Blacklisted URL hits | The total number of Blacklisted URL hits. |
| Total Blacklisted URL misses | The total number of Blacklisted URL misses. |

show active-charging url-blacklisting statistics rulebase name

Table 102: show active-charging url-blacklisting statistics rulebase name Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Service name | Name of the Active Charging Service. |
| Rulebase name | Name of the rulebase. |
| Blacklisted URL hits | The total number of Blacklisted URL hits. |
| Blacklisted URL misses | The total number of Blacklisted URL misses. |
| Total rulebases matched | The total number of rulebases matching the specified criteria. |

show active-charging video detailed-statistics

Table 103: show active-charging video detailed-statistics Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| RAT (Radio Access Type) | |
| GPRS Del. Rate | The average video delivery rate for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| GPRS Enc. Rate | The average video encoding rate for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |

| Field | Description |
|-----------------|--|
| GPRS Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| GPRS %download | The average percentage (in terms of bytes) of video files downloaded for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| GPRS Tot. Video | The total number of video clips for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| UMTS Del. Rate | The average video delivery rate for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| UMTS Enc. Rate | The average video encoding rate for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| UMTS Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| UMTS %download | The average percentage (in terms of bytes) of video files downloaded for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| UMTS Tot. Video | The total number of video clips for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| LTE Del. Rate | The average video delivery rate for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| LTE Enc. Rate | The average video encoding rate for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| LTE Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| LTE %download | The average percentage (in terms of bytes) of video files downloaded for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |

| Field | Description |
|-----------------|--|
| LTE Tot. Video | The total number of video clips for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| HSPA Del. Rate | The average video delivery rate for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| HSPA Enc. Rate | The average video encoding rate for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| HSPA Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| HSPA %download | The average percentage (in terms of bytes) of video files downloaded for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| HSPA Tot. Video | The total number of video clips for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| CDMA Del. Rate | The average video delivery rate for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| CDMA Enc. Rate | The average video encoding rate for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| CDMA Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| CDMA %download | The average percentage (in terms of bytes) of video files downloaded for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| CDMA Tot. Video | The total number of video clips for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| WLAN Del. Rate | The average video delivery rate for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |

| Field | Description |
|--------------------------------|---|
| WLAN Enc. Rate | The average video encoding rate for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| WLAN Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| WLAN %download | The average percentage (in terms of bytes) of video files downloaded for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| WLAN Tot. Video | The total number of video clips for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Del. Rate | The average video delivery rate for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Enc. Rate | The average video encoding rate for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Tot. Bytes | The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other %download | The average percentage (in terms of bytes) of video files downloaded for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Tot. Video | The total number of video clips for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Container (File Format) | |
| MP4 Enc. Rate | The average video encoding rate for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| MP4 Tot. Bytes | The total bytes transferred to RAN side for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| MP4 Tot. Video | The total number of video clips for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |

| Field | Description |
|------------------|--|
| FLV Enc. Rate | The average video encoding rate for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| FLV Tot. Bytes | The total bytes transferred to RAN side for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| FLV Tot. Video | The total number of video clips for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Enc. Rate | The average video encoding rate for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Tot. Bytes | The total bytes transferred to RAN side for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |
| Other Tot. Video | The total number of video clips for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices. |

show active-charging video detailed-statistics container mp4

Note that there are additional **container** options for this command, as follows: **container flv** and **container others**.

Table 104: show active-charging video detailed-statistics container mp4 Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Device Type iOS | |
| Total Content Size of the Videos | The total size of the video clips in bytes for iOS User Device Type for MP4 Container Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for iOS User Device Type for MP4 Container Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for iOS User Device Type for MP4 Container Type. |
| Total Video Object Count | The total number of video objects for iOS User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |

| Field | Description |
|----------------------------------|--|
| Average Video Encoding Bit Rate | The average video encoding bit rate for iOS User Device Type for MP4 Container Type. |
| Device Type Android | |
| Total Content Size of the Videos | The total size of the video clips in bytes for Android User Device Type for MP4 Container Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for Android User Device Type for MP4 Container Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for Android User Device Type for MP4 Container Type. |
| Total Video Object Count | The total number of video objects for Android User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for Android User Device Type for MP4 Container Type. |
| Device Type Laptop | |
| Total Content Size of the Videos | The total size of the video clips in bytes for Laptop User Device Type for MP4 Container Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for Laptop User Device Type for MP4 Container Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for Laptop User Device Type for MP4 Container Type. |
| Total Video Object Count | The total number of video objects for Laptop User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for Laptop User Device Type for MP4 Container Type. |
| Device Type Others | |
| Total Content Size of the Videos | The total size of the video clips in bytes for other User Device Type for MP4 Container Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for other User Device Type for MP4 Container Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for other User Device Type for MP4 Container Type. |

| Field | Description |
|---------------------------------|--|
| Total Video Object Count | The total number of video objects for other User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for other User Device Type for MP4 Container Type. |

show active-charging video detailed-statistics rat cdma

Note that there are additional **rat** options for this command, as follows: **rat gprs**, **rat hspa**, **rat lte**, **rat others**, **rat umts**, and **rat wlan**.

Table 105: show active-charging video detailed-statistics rat cdma Command Output Descriptions

| Field | Description |
|--|--|
| User Device Type iOS | |
| Total Content Size of the Videos | The total size of the video clips in bytes for iOS User Device Type for CDMA Radio Access Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for iOS User Device Type for CDMA Radio Access Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for iOS User Device Type for CDMA Radio Access Type. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for iOS User Device Type for CDMA Radio Access Type. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download a video for iOS User Device Type for CDMA Radio Access Type. |
| Total Video Object Count | The total number of video objects for iOS User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for iOS User Device Type for CDMA Radio Access Type. |
| Average Delivery Bit Rate | The average delivery bit rate for iOS User Device Type for CDMA Radio Access Type. |
| Percentage of Video Downloaded | The percentage of bytes downloaded for video for iOS User Device Type for CDMA Radio Access Type. |
| User Device Type Android | |

| Field | Description |
|--|--|
| Total Content Size of the Videos | The total size of the video clips in bytes for Android User Device Type for CDMA Radio Access Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for Android User Device Type for CDMA Radio Access Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for Android User Device Type for CDMA Radio Access Type. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for Android User Device Type for CDMA Radio Access Type. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download a video for Android User Device Type for CDMA Radio Access Type. |
| Total Video Object Count | The total number of video objects for Android User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for Android User Device Type for CDMA Radio Access Type. |
| Average Delivery Bit Rate | The average delivery bit rate for Android User Device Type for CDMA Radio Access Type. |
| Percentage of Video Downloaded | The percentage of bytes downloaded for video for Android User Device Type for CDMA Radio Access Type. |
| User Device Type Laptop | |
| Total Content Size of the Videos | The total size of the video clips in bytes for Laptop User Device Type for CDMA Radio Access Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for Laptop User Device Type for CDMA Radio Access Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for Laptop User Device Type for CDMA Radio Access Type. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for Laptop User Device Type for CDMA Radio Access Type. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download a video for Laptop User Device Type for CDMA Radio Access Type. |
| Total Video Object Count | The total number of video objects for Laptop User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for Laptop User Device Type for CDMA Radio Access Type. |

| Field | Description |
|--|--|
| Average Delivery Bit Rate | The average delivery bit rate for Laptop User Device Type for CDMA Radio Access Type. |
| Percentage of Video Downloaded | The percentage of bytes downloaded for video for Laptop User Device Type for CDMA Radio Access Type. |
| User Device Type Others | |
| Total Content Size of the Videos | The total size of the video clips in bytes for other User Device Type for CDMA Radio Access Type. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for other User Device Type for CDMA Radio Access Type. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for other User Device Type for CDMA Radio Access Type. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for other User Device Type for CDMA Radio Access Type. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download a video for other User Device Type for CDMA Radio Access Type. |
| Total Video Object Count | The total number of video objects for other User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for other User Device Type for CDMA Radio Access Type. |
| Average Delivery Bit Rate | The average delivery bit rate for other User Device Type for CDMA Radio Access Type. |
| Percentage of Video Downloaded | The percentage of bytes downloaded for video for other User Device Type for CDMA Radio Access Type. |

show active-charging video detailed-statistics ue laptop

Note that there are additional **ue** options for this command, as follows: **ue android**, **ue ios**, and **ue others**.

Table 106: show active-charging video detailed-statistics ue laptop Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Radio Type GPRS | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for GPRS Radio Access Type for laptops. |

| Field | Description |
|--|---|
| Total Duration of the Videos | The total duration of the video clips, in seconds, for GPRS Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for GPRS Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for GPRS Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for GPRS Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for GPRS Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for GPRS Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for GPRS Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for GPRS Radio Access Type for laptops. |
| Radio Type UMTS | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for UMTS Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for UMTS Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for UMTS Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for UMTS Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for UMTS Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for UMTS Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for UMTS Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for UMTS Radio Access Type for laptops. |

| Field | Description |
|--|--|
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for UMTS Radio Access Type for laptops. |
| Radio Type LTE | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for LTE Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for LTE Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for LTE Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for LTE Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for LTE Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for LTE Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for LTE Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for LTE Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for LTE Radio Access Type for laptops. |
| Radio Type HSPA | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for HSPA Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for HSPA Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for HSPA Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for HSPA Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for HSPA Radio Access Type for laptops. |

| Field | Description |
|--|---|
| Total Video Object Count | The total number of video objects for HSPA Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for HSPA Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for HSPA Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for HSPA Radio Access Type for laptops. |
| Radio Type CDMA | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for CDMA Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for CDMA Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for CDMA Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for CDMA Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for CDMA Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for CDMA Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for CDMA Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for CDMA Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for video for CDMA Radio Access Type for laptops. |
| Radio Type WLAN | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for WLAN Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for WLAN Radio Access Type for laptops. |

| Field | Description |
|--|--|
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for WLAN Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for WLAN Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for WLAN Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for WLAN Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for WLAN Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for WLAN Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for video for WLAN Radio Access Type for laptops. |
| Radio Type Others | |
| Total Content Size of the Videos | The total size in payload bytes (HTTP content length) of the video clips for other Radio Access Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for other Radio Access Type for laptops. |
| Total Bytes Sent to the User | The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for other Radio Access Type for laptops. |
| Total Duration of Video Sessions | The total duration, in seconds, of the video sessions for other Radio Access Type for laptops. |
| Total Number of TCP Flows for Video Sessions | The total number of TCP flows used to download all videos for other Radio Access Type for laptops. |
| Total Video Object Count | The total number of video objects for other Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for other Radio Access Type for laptops. |
| Average Delivery Bit Rate | The average delivery bit rate for other Radio Access Type for laptops. |
| Percentage of Video Downloaded | The average percentage (in terms of bytes) of video files downloaded for other Radio Access Type for laptops. |

| Field | Description |
|----------------------------------|---|
| Container Type MP4 | |
| Total Content Size of the Videos | The total size of the video clips in bytes for MP4 Container Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for MP4 Container Type for laptops. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for MP4 Container Type for laptops. |
| Total Video Object Count | The total number of video objects for MP4 Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for MP4 Container Type for laptops. |
| Container Type FLV | |
| Total Content Size of the Videos | The total size of the video clips in bytes for FLV Container Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for FLV Container Type for laptops. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for FLV Container Type for laptops. |
| Total Video Object Count | The total number of video objects for FLV Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for FLV Container Type for laptops. |
| Container Type Others | |
| Total Content Size of the Videos | The total size of the video clips in bytes for other Container Type for laptops. |
| Total Duration of the Videos | The total duration of the video clips, in seconds, for other Container Type for laptops. |
| Total Bytes Sent to the User | The total bytes of video data sent to the subscriber UE for other Container Type for laptops. |
| Total Video Object Count | The total number of video objects for other Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video. |
| Average Video Encoding Bit Rate | The average video encoding bit rate for other Container Type for laptops. |

show active-charging xheader-format name

Table 107: show active-charging xheader-format name Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Xheader Format Name | Specifies the Xheader Format Name |
| Total xheader-format(s) found | Specifies the total number of xheader formats found. |



CHAPTER 6

show administrators

This chapter includes the **show administrators** command output tables.

- [show administrators](#), on page 443
- [show administrators session id](#), on page 444

show administrators

Table 108: show administrators Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Administrator/Operator Name | Displays the name of the administrative user currently accessing the system. |
| M | The M (Lock Mode) characters are defined as follows: <ul style="list-style-type: none">• [blank] – Administrator is in Exec mode• c – Administrator session is currently in Config Mode (shared-lock)• s – Administrator session is currently saving the config• f – Administrator session is currently loading the config file• L – Administrator session is currently in Config Mode with the exclusive-lock |
| Type | Displays the administrative user's type: <ul style="list-style-type: none">• admin = Security Administrator• cfgadm = Administrator• inspect = Inspector• oper = Operator |
| TTY | Displays a reference for the virtual console device for the CLI instance. |

| Field | Description |
|------------|--|
| Start Time | Displays the time and date that the administrative user's session started. |

show administrators session id

Table 109: show administrators session id Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Administrator/Operator Name | Displays the name of the administrative user currently accessing the system. |
| M | The M (Lock Mode) characters are defined as follows: <ul style="list-style-type: none"> • [blank] – Administrator is in Exec mode • c – Administrator session is currently in Config Mode (shared-lock) • s – Administrator session is currently saving the config • f – Administrator session is currently loading the config file • L – Administrator session is currently in Config Mode with the exclusive-lock |
| Login Context | Displays the context in which the CLI user is working. |
| Remote Addr | Displays the IP address from which the CLI user is accessing the system. |
| Session ID | Displays the assigned session ID. |
| Mode | Displays the user's value: <ul style="list-style-type: none"> • TACACS+ User • Local User • Context User |
| Idle | The total number of sessions currently idle in seconds. |



CHAPTER 7

show alarm

This chapter includes the **show alarm** command output tables.

- [show alarm all](#), on page 445
- [show alarm audible](#), on page 446
- [show alarm central-office](#), on page 446
- [show alarm facility](#), on page 447
- [show alarm outstanding all verbose](#), on page 447
- [show alarm statistics](#), on page 448

show alarm all

Table 110: show alarm all Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Audible Alarm | Indicates status of Audible Central Office (CO) Alarm on the SMC (ASR 5000) or SSC (ASR 5500): OFF = audible alarm disabled; ON = audible alarm enabled. |
| Alarm Statistics: | |

| Field | Description |
|----------------------------|---|
| Cumulative Totals | <p>Indicates the number of alarms that have occurred since the system was last booted:</p> <ul style="list-style-type: none"> • Total: The total number of currently outstanding alarms. • Critical (CR): This alarm is triggered when events cause a degradation in service. • Major (MJ): This alarm is triggered on the following conditions: <ul style="list-style-type: none"> • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • The upper or lower fan tray has been removed. • Minor (MN): This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed. |
| Outstanding Alarms: | |
| Sev | Indicates the severity of the alarm indicated as CR (critical), MJ (major) or MI (minor). |
| Object | Indicates the source of the alarm. |
| Event | Displays information about the type of alarm. |

show alarm audible

Indicates the current state of the Audible CO Alarm on the SMC (ASR 5000) or SSC (ASR 5500) as:

- "Audible Alarm OFF" (Disabled)
- "Audible Alarm ON" (Enabled)

show alarm central-office

Indicates the current state of the Central Office Alarm contacts on the SPIO card (ASR 5000) or SSC (ASR 5500) as:

- "All Central Office (CO) alarms are off" (Disabled)
- "All Central Office (CO) alarms are on" (Enabled)

show alarm facility

Indicates the current state of the Audible CO Alarm and CO alarm contacts on the SMC/SPIO (ASR 5000) or SSC (ASR 5500) as:

- "Audible Alarm OFF"
 - "All Central Office (CO) alarms are off" (Disabled)
- "Audible Alarm ON"
 - "All Central Office (CO) alarms are on" (Enabled)

show alarm outstanding all verbose

Table 111: show alarm outstanding all verbose Command Output Descriptions

| Field | Description |
|----------------|---|
| Severity (Sev) | <p>If an alarm is present, the system indicates that one of the following alarm levels has been triggered:</p> <ul style="list-style-type: none"> • Critical (CR): This alarm is triggered when events cause a degradation in service (i.e. the system is supporting a large number of subscribers and Processing Cards are removed thus reducing the amount of available CPU and memory resources). • Major (MJ): This alarm is triggered on the following conditions: <ul style="list-style-type: none"> • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • Either the upper or lower fan trays have been removed. • Minor (MN): This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed. |
| Object | Describes the source and type of the alarm event. |

| Field | Description |
|-----------|---|
| Timestamp | Lists the date and time that the alarm condition was triggered, in the format: <day-of-week> <month> <day> <hh:mm:ss> <timezone>. |
| Alarm ID | The internal system ID of the alarm. |

show alarm statistics

Table 112: show alarm statistics Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Current Outstanding Alarms | <p>Indicates the alarm conditions that are currently active:</p> <ul style="list-style-type: none"> • Total: The total number of currently outstanding alarms. • Critical (CR): This alarm is triggered when events cause a degradation in service. • Major (MJ): This alarm is triggered on the following conditions: <ul style="list-style-type: none"> • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • The upper or lower fan tray has been removed. • Minor (MN): This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed. |

| Field | Description |
|-------------------|---|
| Cumulative Totals | <p>Indicates the number of alarms that have occurred since the system was last booted:</p> <ul style="list-style-type: none">• Total: The total number of currently outstanding alarms.• Critical (CR): This alarm is triggered when events cause a degradation in service.• Major (MJ): This alarm is triggered on the following conditions:<ul style="list-style-type: none">• A hardware failure was detected on a card that will cause it to be taken off-line.• One of the Power Filter Units has failed or was removed.• One or more of the fans on either the upper or lower fan tray have failed.• The upper or lower fan tray has been removed.• Minor (MN): This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed. |



CHAPTER 8

show alcap

This chapter includes the **show alcap** command output tables.

- [show alcap counters](#), on page 451
- [show alcap-service all](#), on page 452
- [show alcap-service full](#), on page 453

show alcap counters

Table 113: show alcap counters Command Output Descriptions

| Field | Description |
|--|---|
| AAL2 Channels Counters | This group displays the counter statistics of AAL2 channels in ALCAP service. |
| Number of AAL2 channels in IDLE state | Indicates the total number of AAL2 channels in IDLE state in ALCAP service instance. |
| Number of AAL2 channels in CONNECTED state | Indicates the total number of AAL2 channels in CONNECTED state in ALCAP service instance. |
| Number of AAL2 channels in CONNECTING state | Indicates the total number of AAL2 channels in CONNECTING state. |
| Number of AAL2 channels in RELEASE PENDING state | Indicates the total number of AAL2 channels in RELEASE PENDING state. |
| Number of AAL2 channels in RESET PENDING state | Indicates the total number of AAL2 channels in RESET PENDING state. |
| AAL2 Paths Counters | This group displays the counter statistics of AAL2 paths in particular AAL2 channel in ALCAP service. |
| Number of AAL2 Paths in LOCALLY BLOCKED state | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked locally. |
| Number of AAL2 Paths in REMOTE BLOCKED state | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked by remote peer node. |

| Field | Description |
|---|--|
| Number of AAL2 Paths in BLOCKED state | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked. This includes both, local and remote blocks. |
| Number of AAL2 Paths in RESET PENDING state | Indicates the total number of AAL2 Paths in RESET PENDING state. |

show alcap-service all



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 114: show alcap-service all Command Output Descriptions

| Field | Description |
|---------------------------------|---|
| Aal2 node | The name of the ALCAP service node in which the ALCAP service is configured. |
| Aal2 node id | The identity number of the ALCAP node in which ALCAP service is configured. |
| Point code | Point code of adjacent AAL2 node in SS7 format address. |
| AESA | Specifies the ATM Endpoint Service Address (AESA) in an ATM (or AAL2) network to map with adjacent AAL2 node. The AESA is based on the generic network service access point (NSAP) format. The ATM connection from HNB-GW terminates at this point. |
| Total Aal2 Path | Indicates the total number of AAL2 paths configured for this ALCAP service on an AAL2 node. |
| Total Aal2 Path Blocked | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked. This includes both, local and remote blocks. |
| Total Aal2 Path Locally Blocked | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked locally. |
| Total Aal2 Path Remote Blocked | Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked by remote peer node. |
| Aal2 Path info | This group displays the AAL2 path related information. |
| Aal2 Path id | Indicates the identity number of AAL2 path configured on this AAL2 node under ALCAP service. |

| Field | Description |
|-----------------|--|
| ATM Port Bound | Indicates the status if the Aal2 path is bound to a physical ATM port or not. |
| LPort Id | Indicates the logical port Id identifying an Aal2 path binding to an ATM port. |
| Path FSM State | Indicates the current state of this AAL2 path FSM. Possible states are: <ul style="list-style-type: none"> • Idle: The Path FSM is in Idle state • Pending Reset Confirm: A path reset procedure is in process and waiting for a conformation from the peer node. • Pending Block Confirm: A path block procedure is in process and waiting for a conformation from the peer node. • Pending Un-Block Confirm: A path Un-block procedure is in process and waiting for a conformation from the peer node. • Pending Reset and Block Confirm: Path reset and path block procedure is in process and waiting for a conformation from the peer node. • Pending Reset and Un-Block Confirm: Path reset and path un-block procedure is in process and waiting for a conformation from the peer node. |
| Locally Blocked | Indicates whether an AAL2 path on AAL2 node under ALCAP service is locally blocked or not. |
| Remote Blocked | Indicates whether an AAL2 path on AAL2 node under ALCAP service is remotely blocked by peer node or not. |

show alcap-service full



Important In Release 20 and later, HN BGW is not supported. For more information, contact your Cisco account representative.

Table 115: show alcap-service full Command Output Descriptions

| Field | Description |
|---------------|---|
| alcap service | The name of the ALCAP service of which statistics are displayed. |
| service id | The identity number of the ALCAP service of which statistics are displayed. |
| Context | Indicates the system context name in which ALCAP service is configured. |

| Field | Description |
|-----------------------|---|
| state | Indicates the state of the ALCAP service. |
| self point code | Indicates the address of this ALCAP service in SS7 point code notation. |
| ss7 routing domain id | Indicates the routing domain id in which ALCAP service is associated. |
| AAL2 Nodes | This group displays the information related to AAL2 node configured in ALCAP service. |
| Node name | Indicates the name of the AAL2 node configured in ALCAP service. |
| Point Code | Indicates the address of AAL2 node in SS7 point code notation. |
| Path id | Indicates the identity number of AAL2 path configured on this AAL2 node under ALCAP service. |
| Routes | This group displays the information related to AAL2 routes configured for AAL2 path. |
| AESA | Specifies the ATM Endpoint Service Address (AESA) in an ATM (or AAL2) network to map with adjacent AAL2 node. The AESA is based on the generic network service access point (NSAP) format. The ATM connection from HNB-GW terminates at this point. |
| Node id | Indicates the AAL2 node identity number used for routes in AAL2 path FSM. |
| ERQ timer | Indicates the maximum time, in seconds, configured for Timer_ERQ on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Establish Request procedure. Configurable range is from 5 through 30 seconds and default is 5 seconds. |
| REL timer | Indicates the maximum time, in seconds, configured for Timer_REL on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Release Request procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds. |
| RES timer | Indicates the maximum time, in seconds, configured for Timer_RES on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Reset Request procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds. |

| Field | Description |
|--------------------------|---|
| BLO timer | Indicates the maximum time, in seconds, configured for Timer_BLO on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Path Block procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds. |
| UBL timer | Indicates the maximum time, in seconds, configured for Timer_UBL on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Path Un-Block procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds. |
| MOD timer | Indicates the maximum time, in seconds, configured for Timer_MOD on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Path ModifyRequest procedure. Configurable range is from 5 through 30 seconds and default is 5 seconds. |
| STC long timer | Indicates the configured duration value in milliseconds for STC long timer. This timer is used by the congestion indication procedure. Receipt of a repeated congestion indication from MTP3B before the expiry of this timer is interpreted as the congestion situation. On the other hand, if no congestion indication is received from MTP3B before expiry of this timer, the congestion situation is considered to have improved. Configurable range is from 5000 ms through 10000 ms and default value is 5000 ms. |
| STC short timer | Indicates the configured duration value in milliseconds for STC short timer. This timer is used by the congestion indication procedure. The role of this timer is to avoid overreacting if multiple congestion indications are received from MTP3B in quick succession. Configurable range is from 300 ms through 600 ms and default value is 300 ms. |
| Max-reset-retransmission | Indicates maximum number of retries allowed for transmission of RESET message to reset the AAL2 path by ALCAP service. Configurable range is 0 to 4 and default is 1. A "0" value indicates that retransmission of RESET message is disabled. |



CHAPTER 9

show apn

This chapter includes the **show apn** command output tables.

- [show apn all, on page 457](#)
- [show apn counter ip-allocation all, on page 473](#)
- [show apn name, on page 474](#)
- [show apn statistics all hsgw-only, on page 475](#)
- [show apn statistics, on page 476](#)
- [show apn statistics name, on page 476](#)
- [show apn statistics name qci, on page 488](#)

show apn all

Table 116: show apn all Command Output Descriptions

| Field | Description |
|-------------------------|---|
| access point name (APN) | Indicates the name of the access point name (APN) for which counters are displayed. |
| authentication context | Name of the system context used for authentication for this APN. |
| pdp type | Indicates the type of PDP context. Possible types are: <ul style="list-style-type: none">• IPv4• IPv6• PPP |
| ehrpd access | Specifies whether ehrpd-access option is configured in this APN or not. If enabled, the P-GW excludes IPv6 traffic from being delivered to UEs on the eHRPD network that do not have IPv6 capabilities. |

| Field | Description |
|-----------------------------------|--|
| emergency | Specifies whether emergency-apn option is configured in this APN or not. If enabled, this APN is an emergency APN for VoLTE based E911 support. |
| Selection Mode | Indicates the APN selection mode applicable for this APN. Possible selection modes are: <ul style="list-style-type: none"> • Chosen by SGSN • Sent by MS • Subscribed |
| ip source violation | Indicates whether check for IPv4 source validation violations enabled or not. Possible status are: <ul style="list-style-type: none"> • Checked • Ignored |
| drop limit | Indicates the IP source-violation drop limit configured for the subscriber. The drop-limit is the number of invalid packets that can be received from a subscriber prior to their session being deleted. Refer to the ip source-violation command in the APN configuration mode. |
| ip source violation no accounting | The IP source validation violations that were detected but not included in the statistics. |
| accounting mode | Indicates the accounting mode configured for this APN. Possible modes are: <ul style="list-style-type: none"> • gtp - GTP CDR accounting • none - No accounting • radius-diameter - RADIUS or Diameter accounting |
| No early PDUs | Specifies whether " no-early-pdu " option configured in this APN or not. If "no-early-PDUs" is enabled, the chassis shall not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the AAA device. On receiving the Acct-Rsp, pending PDUs are sent out. |
| no-interims | Specifies whether " no-interims " option configured in this APN or not. If "no-interims" is enabled, the chassis shall not send any interim message to the AAA device. |

| Field | Description |
|---------------------------------------|---|
| Bearer Control Mode | Specifies whether Bearer Control Mode is enabled in this APN or not. |
| max-primary-pdp-contexts | Specifies the maximum primary PDP contexts allowed in this APN. |
| total-pdp-contexts | Specifies the total primary and secondary PDP contexts allowed in this APN. |
| primary contexts | Specifies the total primary contexts allowed in this APN. |
| total contexts | Specifies the total primary and secondary contexts allowed in this APN. |
| max secondary contexts per-subscriber | Specifies the maximum secondary contexts allowed in this APN for a subscriber. |
| IMS Authorization | Specifies whether IMS authorization support is enabled in this APN or not. |
| Credit Control | Specifies whether Diameter pre-paid credit control support is enabled in this APN or not. |
| Credit Control Service Name | Specifies the name of credit control service configured on the chassis. |
| Accounting Policy Name | Specifies the name of accounting policy associated with the configured APN. If no accounting policy is associated, this field will display as N/A. |
| PCO Options | Specifies which customized PCO (Protocol Configuration Options) options are sent in the network to MS GTP messages. |
| Mode | Indicates whether customized PCO options are sent in the network to MS GTP messages for all UEs regardless of support, only UEs that request customized PCO options, or no UEs. |
| mbms bearer absolute timeout | Indicates the absolute timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) bearer context. |
| mbms bearer idle timeout | Indicates the idle timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) bearer context. |
| mbms ue absolute timeout | Indicates the absolute timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) UE context. |
| local ip | Specifies the local IP address of the interface assigned to this APN. |
| nexthop gateway addr | Specifies the IP address of the next hop gateway configured in this APN. |

| Field | Description |
|---|--|
| ignore-alt-config (no-dns) | Specifies if preference is given to dns server address configured in APN. If name server addresses is not found in APN configuration, it is not provisioned from SGi context even if it is configured there. |
| ignore-alt-config (no-s6b) | Specifies if alternate service level configuration for s6b authorization is ignored when S6b authorization is disabled at APN. |
| Authorization with S6b | Specifies if the S6b authorization has been enabled. |
| primary dns | Indicates the IP address of primary Domain Name Server (DNS). |
| secondary dns | Indicates the IP address of secondary Domain Name Server (DNS). |
| primary nbns | Indicates the IP address of primary NetBIOS Name Server (NBNS). |
| secondary nbns | Indicates the IP address of secondary NetBIOS Name Server (NBNS). |
| ppp keep alive period | Indicates the duration in seconds to transmit LCP keep-alive packet. |
| ppp mtu | Indicates the maximum size of transmission units in bytes configured for this APN. |
| absolute timeout | Indicates the absolute timeout duration in seconds for session configured in this APN. |
| idle timeout | Indicates the idle timeout duration in seconds for session configured in this APN. |
| bearer inactivity timeout (GBR Bearers) | Indicates the bearer inactivity timeout configuration for gbr bearers in seconds. |
| bearer inactivity timeout (Non GBR Bearers) | Indicates the bearer inactivity timeout configuration for non-gbr bearers in seconds. |
| emergency inactivity timeout | Indicates the emergency inactivity timeout duration in seconds for session configured in this emergency APN for VoLTE based E911 support. |
| idle-timeout-activity ignore-downlink | Indicates whether idle timeout activity configured in this APN to consider downlink traffic as activity for idle-timeout or not. |
| long duration timeout | Indicates the timeout duration in seconds for long duration timeout support configured in this APN. |
| long dur inactivity time | Indicates the inactivity duration in seconds for long duration timeout support configured in this APN. |

| Field | Description |
|---|---|
| long duration action | Indicates the action configured in this APN for long duration timeout support. Possible actions are: <ul style="list-style-type: none"> • Detection • Disconnection |
| ip header compression | Indicates the IP header compression method configured in this APN for RObust Header Compression (ROHC) support. Supported method is Van Jacobsen (VJ). |
| ip hide service address | Indicates whether APN is configured to hide service IP address from the subscriber (for security reasons) or not. |
| ip output access-group | The IPv4 access control list (ACL) configured in this APN for outward traffic. |
| ip input access-group | The IPv4 access control list (ACL) configured in this APN for inward traffic. |
| ipv6 output access-group | The IPv6 access control list (ACL) configured in this APN for outward traffic. |
| ipv6 input access-group | The IPv6 access control list (ACL) configured in this APN for inward traffic. |
| policy-group in | The traffic policy group configured in this APN for inward traffic. |
| policy-group out | The traffic policy group configured in this APN for outward traffic. |
| permit ip multicast | Indicates whether APN is configured to discard or permit the IP multicast. |
| ppp authentication | Indicates the type of PPP authentication configured for this APN. |
| eap authentication initial-access-request | Indicates the type of initial access request to be used in Diameter EAP request. |
| allow noauthentication | Indicates whether PPP session is allowed without authentication in this APN or not. |
| imsi authentication | Indicates whether PPP session authentication in this APN is configured for IMSI authentication or not. |
| msisdn authentication | Indicates whether PPP session authentication in this APN is configured for MSISDN authentication or not. |
| radius returned-username | Indicates which Username to use in the RADIUS accounting messages. When "override-constructed-username" is configured, the Username sent by RADIUS in Access-Accept is used. When "prefer-constructed-username" is configured, the Username sent by RADIUS is ignored and the constructed Username is used. |

| Field | Description |
|------------------------------|--|
| ip destination context | Indicates the name of the configured destination context for this APN. |
| Rule Base | Indicates the name of the configured rulebase for this APN. |
| Credit-Control Session | Displays one of the following values based on the credit-control-client override CLI command used in APN mode configuration. <ul style="list-style-type: none"> • per-subscriber • per-sub-session • Default (fallback to config mode 'require ecs credit-control' CLI) |
| Gy Rule Base List | Indicates the name of the configured Gy rulebase list for this APN. |
| Content-Filtering Policy-Id | Indicates whether inline content filtering policy is configured for this APN or not. |
| mediation accounting | Indicates whether mediation device is configured for accounting in this APN or not. |
| mediation-device context | Indicates the name of the system context to use for mediation device for accounting in this APN. |
| mediation no early PDUs | Specifies whether " no-early-pdu " option configured for this subscriber or not. If "no-early-PDUs" is enabled, the chassis shall not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the mediation device. On receiving the Acct-Rsp, pending PDUs are sent out. |
| mediation no-interims | Specifies whether " no-interims " option configured for this subscriber or not. If "no-interims" is enabled, the chassis shall not send any interim message to the mediation device. |
| mediation delay-GTP-response | Specifies whether " delay-GTP-response " option configured for this subscriber or not. When enabled, this option delays the Create PDP Context response until an Accounting Start response is received from the mediation device. |
| outbound username | Name of the user for outbound traffic. |
| ip address pools | Indicates the IP address pool used for this APN. |
| access-link ip-frag | Indicates the IP packet fragmentation setting for access link. |

| Field | Description |
|--|---|
| ignore DF-bit data-tunnel | Indicates whether "ignore df-bit" is set for data tunnel or not. |
| ip allocation type | Specifies the type of IP allocation method used for IP address allocation. Possible types are: <ul style="list-style-type: none"> • DHCP-Proxy • DHCP-Relay • Local • Dynamic • Static |
| allow user specified ip addr | Indicates whether user specified IP address is allowed or not for IP allocation. |
| prefer dhcp options | Indicates whether support for DHCP supplied parameters, like DNS/NBNS addresses, in subscriber session is configured for this APN. This support can be enabled with ip address alloc-method dhcp-proxy prefer-dhcp-options command in APN Configuration mode. |
| 3gpp qos to dscp mapping | This group indicates the 3GPP QoS to DSCP mapping information. |
| qci 1: ef | Indicates the DSCP configured for QCI1 type of traffic. |
| qci 2: ef | Indicates the DSCP configured for QCI2 type of traffic. |
| qci 3: af11 | Indicates the DSCP configured for QCI3 type of traffic. |
| qci 4: af11 | Indicates the DSCP configured for QCI4 type of traffic. |
| qci 5: ef | Indicates the DSCP configured for QCI5 type of traffic. |
| qci 6: ef | Indicates the DSCP configured for QCI6 type of traffic. |
| qci 7: af21 | Indicates the DSCP configured for QCI7 type of traffic. |
| qci 8: af21 | Indicates the DSCP configured for QCI8 type of traffic. |
| qci 9: be | Indicates the DSCP configured for QCI9 type of traffic. |
| 3GPP QoS to DSCP Mapping based on Alloc. Prio | This group indicates the 3GPP QoS to DSCP mapping information based on allocation priority. |
| qci 5 (Alloc.P 1): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 1. |
| qci 5 (Alloc.P 2): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 2. |

| Field | Description |
|--------------------------------------|--|
| qci 5 (Alloc.P 3): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 3. |
| qci 6 (Alloc.P 1): ef | Indicates the DSCP configured for QCI6 type of traffic with allocation priority 1. |
| qci 6 (Alloc.P 2): ef | Indicates the DSCP configured for QCI6 type of traffic with allocation priority 2. |
| qci 6 (Alloc.P 3): ef | Indicates the DSCP configured for QCI6 type of traffic with and allocation priority 3. |
| qci 7 (Alloc.P 1): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 1. |
| qci 7 (Alloc.P 2): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 2. |
| qci 7 (Alloc.P 3): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 3. |
| qci 8 (Alloc.P 1): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 1. |
| qci 8 (Alloc.P 2): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 2. |
| qci 8 (Alloc.P 3): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 3. |
| Copy user-datagram IP TOS | Indicates whether copying of IP TOS octet value from user IPv4 datagrams to IP header of tunnel encapsulation is enabled or not. |
| APN defined Charging Characteristics | This group displays the APN defined charging characteristics for various types of subscribers. |
| Home Subscribers | This sub-group displays the APN defined charging characteristics for home subscribers. |
| Behavior Bits | Indicates the behavior bits configured for home subscribers in APN defined charging characteristics. |
| Profile Value | Indicates the profile value configured for home subscribers in APN defined charging characteristics. |
| Visiting Subscribers | This sub-group displays the APN defined charging characteristics for visiting subscribers. |
| Behavior Bits | Indicates the behavior bits configured for visiting subscribers in APN defined charging characteristics. |
| Profile Value | Indicates the profile value configured for visiting subscribers in APN defined charging characteristics. |

| Field | Description |
|---|---|
| Roaming Subscribers | This sub-group displays the APN defined charging characteristics for roaming subscribers. |
| Behavior Bits | Indicates the behavior bits configured for roaming subscribers in APN defined charging characteristics. |
| Profile Value | Indicates the profile value configured for roaming subscribers in APN defined charging characteristics. |
| All (Home/Visiting/Roaming) Subscribers | This sub-group displays the APN defined charging characteristics for all subscribers (including home, visiting, and roaming). |
| Behavior Bits | Indicates the behavior bits configured for all subscribers (including home, visiting, and roaming) in APN defined charging characteristics. |
| Profile Value | Indicates the profile value configured for all subscribers (including home, visiting, and roaming) in APN defined charging characteristics. |
| Subscribers to use APN defined charging characteristics | Indicates the number of subscriber to use APN defined charging characteristics. |
| Subscribers to use RADIUS returned charging characteristics | Indicates whether subscribers in this APN are configured to use charging characteristics returned from RADIUS server. |
| Subscribers to use GX returned charging characteristics | Indicates whether subscribers in this APN are configured to use Gx-returned charging characteristics. |
| dhcp service name | Specifies the name of the DHCP service configured for IP address allocation. |
| dhcp context name | Specifies the name of the DHCP context where DHCP service is configured for IP address allocation. |
| dhcp lease expiry policy | Specifies the DHCP address lease expiry policy. Possible actions are: <ul style="list-style-type: none"> • autoconnect • disconnect |
| mobile-ip | Specifies the whether Mobile IP is configured in this APN or not. |
| mobile-ip home-agent | Specifies the IP address of home agent (HA) to use for Mobile IP session in this APN. |
| mobile-ip alternate-home-agent(s) | Specifies the IP address of alternate home agent (HA) to use for Mobile IP session in this APN. |
| mobile-ip reverse-tunnel | Specifies the whether Mobile IP reverse tunnel is enabled for Mobile IP session in this APN or not. |

| Field | Description |
|--|--|
| mobile-ip mn-aaa-removal-indication | Specifies the whether "mn-aaa-removal-indication" parameter is configured for Mobile IP session in this APN or not. |
| mobile-ip mn-ha-spi | Specifies the security parameter index (SPI) configured between MN and HA for Mobile IP session in this APN. |
| mobile-ip mn-ha-hash-algorithm | Specifies the hash algorithm configured for Mobile IP session in this APN. Possible hash algorithms are: <ul style="list-style-type: none"> • hmac-md5 • md5 • rfc2002-md5 |
| proxy-mip | Specifies the whether Proxy-Mobile IP is configured in this APN or not. |
| proxy-mip null-username static home address | Specifies the whether handling of RRQ to enable the acceptance without NAI extension in this APN is enabled or not. |
| Tunnel peer load-balancing | Specifies the tunnel peer selection method in this APN for load balancing between tunnel-peers. Possible selection methods are: <ul style="list-style-type: none"> • balanced • prioritized • random |
| L3-to-L2 tunnel address-policy no-alloc-validate | Specifies whether this APN is configured, to not to allocate or validate subscriber addresses locally for such sessions, it passes the address between remote tunnel terminator to the Mobile Node, or not. |
| tunnel address-policy alloc-validate | Specifies whether this APN is configured, to allocate addresses for cases in which IP addresses are dynamically assigned, or not. |
| NPU QoS Traffic Priority | Indicates the configured NPU QoS priority queue for packets facilitated by the APN. Possible priorities are: <ul style="list-style-type: none"> • best-effort • bronze • derive-from-packet-dscp • gold • silver. |
| APN QoS Attributes | Specifies the QoS attribute configured in this APN. |

| Field | Description |
|-----------------------------|---|
| Newcall Policy | Indicates the policy for action on new calls coming on this APN. Possible actions are: <ul style="list-style-type: none"> • Accept • Reject |
| SDU Error Ratio | Indicates the QoS attribute reliability class based on Service Data Unit (SDU) Error Ratio attributes configured in this APN. |
| Residual BER | Indicates the QoS attribute reliability class based on Residual Bit Error Ratio (BER) attributes configured in this APN. |
| QCI n | Specifies the statistics for use traffic of QoS QCI class along with traffic status. Here n (qci-val) is the QCI for which the negotiate limit is being set, it ranges from 1 to 9. |
| Downlink Negotiate Limit | Specifies whether traffic data QoS negotiation limit in downlink direction is enabled or not for this class of QoS in this APN. By default it's disabled. |
| Uplink Negotiate Limit | Specifies whether traffic data QoS negotiation limit in uplink direction is enabled or not for this class of QoS in this APN. By default it's disabled. |
| Peak Data Rate (in bps) | The peak data rate in bit per seconds for this class of QoS in this APN. |
| Committed Data Rate(in bps) | The committed data rate in bit per seconds for this class of QoS in this APN. |
| Downlink Rate Limit | Specifies whether traffic data rate limit in downlink direction is enabled or not for this class of QoS in this APN. |
| Uplink Rate Limit | Specifies whether traffic data rate limit in uplink direction is enabled or not for this class of QoS in this APN. |
| Burst Size | This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN. |
| Auto Readjust | Indicates whether auto readjustment of burst size is enabled or not. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Auto Readjust Duration | Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second. |

| Field | Description |
|------------------------------|---|
| Peak Burst Size(bytes) | Indicates the peak burst size in bytes calculated dynamically by auto readjust duration and rate limit value. |
| Guaranteed Burst Size(bytes) | Indicates the guaranteed burst size in bytes calculated dynamically by auto readjust duration (seconds) and rate limit value (bytes). This counter is applicable only when auto readjustment is enabled. |
| Exceed Action | Specifies the action on downlink/uplink data rate when exceeds the allowed rate limit for this class of QoS. Possible actions are: <ul style="list-style-type: none"> • drop: drop the packets. • lower-ip-precedence: transmit the packet after lowering the ip-precedence. • transmit: transmit the packet. |
| Violate Action | Specifies the action on downlink/uplink data rate violation of allowed rate limit for this class of QoS. Possible actions are: <ul style="list-style-type: none"> • drop: drop the packets. • lower-ip-precedence: transmit the packet after lowering the ip-precedence. • shape: enables the traffic shaping and provides the buffering of user packets when subscriber traffic violates the allowed peak/committed data rate. • shape-transmit-when-buffer-full: enables the traffic shaping and allows the packet to be transmitted when buffer memory is full. • transmit: transmit the packet. |
| APN-AMBR | Specifies the traffic statistics for APN Maximum Bit Rate. |
| Downlink Apn Ambr | Specifies whether traffic data QoS negotiation limit in downlink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |

| Field | Description |
|----------------------------------|---|
| Uplink Apn Ambr | Specifies whether traffic data QoS negotiation limit in uplink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Burst Size | This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN. |
| Auto Readjust | Indicates whether auto readjustment of burst size is enabled or not. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Auto Readjust Duration | Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second. |
| Violate Action | Specifies the action on downlink/uplink data rate violation of allowed rate limit for this class of QoS. Possible actions are: <ul style="list-style-type: none"> • drop: drop the packets. • lower-ip-precedence: transmit the packet after lowering the ip-precedence. • shape: enables the traffic shaping and provides the buffering of user packets when subscriber traffic violates the allowed peak/committed data rate. • shape-transmit-when-buffer-full: enables the traffic shaping and allows the packet to be transmitted when buffer memory is full. • transmit: transmit the packet. |
| ppp accept peer ipv6 ifid | Indicates the IPv6 interface id of peer to accept PPP session. |
| ipv6 init router advt interval | Indicates the initial IPv6 router advertisement interval in seconds for this APN. |
| ipv6 init router number of advts | Indicates the total number of initial IPv6 router advertisement for this APN. |

| Field | Description |
|-----------------------------------|--|
| ipv6 address prefix | Indicates the IPv6 address prefix configured for sessions facilitated by this APN. |
| ipv6 address prefix pool | Indicates the IPv6 address prefix pool name configured for sessions facilitated by this APN. |
| ipv6 interface id | Indicates the IPv6 interface id configured for sessions facilitated by this APN. |
| ipv6 dns primary server | Indicates the IPv6 address of primary DNS server configured for sessions facilitated by this APN. |
| ipv6 dns secondary server | Indicates the IPv6 address of secondary DNS server configured for sessions facilitated by this APN. |
| ipv6 egress address filtering | Indicates whether egress address filtering configured in this APN or not to filter out packets not meant for the mobile interface ID. |
| p-cscf fqdn | Indicates the FQDN server name of P-CSCF configured for sessions facilitated by this APN. |
| p-cscf primary ip | Indicates the IPv4 address of primary P-CSCF configured for sessions facilitated by this APN. |
| p-cscf secondary ip | Indicates the IPv4 address of secondary P-CSCF configured for sessions facilitated by this APN. |
| p-cscf primary ipv6 | Indicates the IPv6 address of primary P-CSCF configured for sessions facilitated by this APN. |
| p-cscf secondary ipv6 | Indicates the IPv6 address of secondary P-CSCF configured for sessions facilitated by this APN. |
| ipv6 dns proxy | Indicates whether IPv6 DNS proxy server configured for sessions facilitated by this APN or not. |
| ipv6 minimum link MTU | Indicates the size of packet in bytes configured for access-link MTU for fragment. |
| Radius Group | Indicates the AAA server group associated with this APN. |
| Radius Secondary Group | If the secondary Accounting group is configured in the APN configuration, this field displays the corresponding group name. Otherwise, it displays <i>none</i> . |
| Radius Returned Framed IP Address | This group specifies the action and policy to handle the framed IP address returned from RADIUS server. |
| Policy | Specifies the policy to handle the framed IP address returned from RADIUS server. Possible actions are: <ul style="list-style-type: none"> • accept-call-when-ms-ip-not-supplied • reject-call-when-ms-ip-not-supplied |

| Field | Description |
|---|--|
| Access-flow traffic-validation | Specifies whether traffic validation for access flow is enabled for this APN or not. |
| Virtual APN Configuration | Indicates whether virtual APN is configured with APN or not. |
| Preference | Specifies the configured preference value of the rule for the virtual apn. It is an integer value which ranges from 1 to 1000. |
| Rule-Definition | Specifies the configured rule definition(s) for the virtual apn. Rule definitions include: <ul style="list-style-type: none"> • access-gw-address • bearer-access-service • cc-profile: charging characteristics profile index ranging from 0 to 15 • domain • mcc: mobile country code ranging from 100 to 999 • msisdn-range • rat-type: eutran, gan, geran, hspa, utran, and wlan • roaming-mode: home, roaming, and visiting |
| Selected-APN | Specifies the access point name (APN) in the VPN context to allow configuration of virtual APN related parameters. |
| IPv6 Configuration | This group displays the configuration related to IPv6 parameters. |
| IPv6 initial number of router advertisements | Indicates the total number of initial IPv6 router advertisement for this APN. |
| IPv6 initial router advertisements interval | Indicates the initial IPv6 router advertisement interval in seconds for this APN. |
| IPv6 initial router advertisements option MTU | Indicates if the option mtu setting is enabled/disabled for IPv6 initial router advertisements. When this feature is enabled and configured in <i>APN Configuration Mode</i> , the RA messages will contain the IPv6 MTU option for IPv6/Ipv4v6 PGW/SAEGW/GGSN calls. As a result, the UE will send uplink data packets based on the configured MTU and perform data fragmentation at the source, if required. This feature also reduces the number of ICMPv6 <i>Packet Too Big Error</i> messages in the operator's network. |
| IPv6 Prefix Pool | Indicates the IPv6 address prefix pool name configured for sessions facilitated by this APN. |

| Field | Description |
|--------------------------------------|--|
| IPv6 Egress address filtering | Indicates whether egress address filtering configured in this APN or not to filter out packets not meant for the mobile interface ID. |
| IPv6 Primary DNS server address | Indicates the IPv6 address of primary DNS server configured for sessions facilitated by this APN. |
| IPv6 Secondary DNS server address | Indicates the IPv6 address of secondary DNS server configured for sessions facilitated by this APN. |
| GTPP Group | Displays all the configured GTPP server groups associated with this APN. |
| GTPP Accounting Context | Specifies the name of all configured GTPP accounting contexts associated with this APN. |
| Firewall Policy | Indicates whether stateful firewall policy is applicable with this APN or not. |
| Mobile IPv6 Tunnel MTU | Indicates the configured maximum transmission unit of packet in bytes for Mobile IPv6 tunnel traffic. |
| Mobile IPv6 Tunnel MTU Exceed Action | Indicates the action to take on packets which exceeds the maximum transmission unit of packet in bytes for Mobile IPv6 tunnel traffic. Possible actions are: <ul style="list-style-type: none"> • Normal processing • Ignore defragment bit • Fragment and forward the packet and notify the sender |
| Mobile IPv6 Home Agent | Specifies the IPv6 address of home agent (HA) to use for Mobile IP session in this APN. |
| Mobile IPv6 Home Link Prefix | Specifies the home link prefix for to use for Mobile IP session in this APN. |
| Mobile IPv6 Home Address | Specifies the home IPv6 address of subscriber to use for Mobile IP session in this APN. |
| APN QCI Stats | Displays bulk statistics per APN QCI. |
| Event Reporting | Specifies whether event reporting to a log has been Enabled or Disabled. |

| Field | Description |
|-----------------------------------|---|
| Qci-qos-mapping Name for RAT-type | <p>Displays the QCI QoS mapping table name associated with a specific APN profile configuration.</p> <p>The mapping table displays DSCP marking for the following RAT-types:</p> <ul style="list-style-type: none"> • EUTRAN • GERAN • UTRAN |

show apn counter ip-allocation all

Table 117: show apn counter ip-allocation all Command Output Descriptions

| Field | Description |
|------------|---|
| APN | Indicates the name of the access point name (APN) for which counters are displayed. |
| UE PROVID. | Indicates the total number of cumulative sessions which used UE provided IP allocation method through this APN. |
| LOCAL POOL | Indicates the total number of cumulative sessions which used Local Pool method for IP allocation through this APN. |
| AAA | Indicates the total number of cumulative sessions which used AAA provided IP allocation method through this APN. |
| DHCP | <p>This group indicates the total number of cumulative sessions which used DHCP method for IP allocation through this APN. Possible groups are:</p> <p>CLIENT: Indicates the number of cumulative sessions which used DHCP client method for IP allocation through this APN.</p> <p>RELAY: Indicates the number of cumulative sessions which used DHCP relay method for IP allocation through this APN.</p> |
| PASSTHRU | Indicates the total number of cumulative sessions which used PASSTHRU IP allocation method through this APN. |

show apn name

Table 118: show apn name Command Output Descriptions

| Field | Description |
|------------------------|---|
| APN-AMBR | Specifies the traffic statistics for APN Maximum Bit Rate. |
| Downlink Apn Ambr | Specifies whether traffic data QoS negotiation limit in downlink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Uplink Apn Ambr | Specifies whether traffic data QoS negotiation limit in uplink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Burst Size | This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN. |
| Auto Readjust | Indicates whether auto readjustment of burst size is enabled or not. Possible states are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Auto Readjust Duration | Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second. |

| Field | Description |
|------------------------------|--|
| Violate Action | <p>Specifies the action on downlink/uplink data rate violation of allowed rate limit for this class of QoS. Possible actions are:</p> <ul style="list-style-type: none"> • drop: drop the packets. • lower-ip-precedence: transmit the packet after lowering the ip-precedence. • shape: enables the traffic shaping and provides the buffering of user packets when subscriber traffic violates the allowed peak/committed data rate. • shape-transmit-when-buffer-full: enables the traffic shaping and allows the packet to be transmitted when buffer memory is full. • transmit: transmit the packet. |
| Token Replenishment Interval | Indicates the token-replenishment-interval. |

show apn statistics all hsgw-only

Table 119: show apn statistics all hsgw-only Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| HSGW Static FQDN Statistics: | |
| Attempts: | Total primary FQDN Selection attempts. |
| Success: | Total primary FQDN Selection attempts that were successful. |
| Tiimeout: | Total number of PBU sent to primary FQDN that timed out. |
| Total Failures: | Total primary FQDN Selection attempts that failed. |
| Attempts: | Total secondary FQDN Selection attempts. |
| Success: | Total secondary FQDN Selection attempts that were successful. |
| Tiimeout: | Total number of PBU sent to the secondary FQDN that timed out. |
| Total Failures: | Total secondary FQDN Selection attempts that failed. |

show apn statistics

Table 120: show apn statistics Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| HSGW Static FQDN Statistics: | |
| Attempts: | Total primary FQDN Selection attempts. |
| Success: | Total primary FQDN Selection attempts that were successful. |
| Timeout: | Total number of PBU sent to primary FQDN that timed out. |
| Total Failures: | Total primary FQDN Selection attempts that failed. |
| Attempts: | Total secondary FQDN Selection attempts. |
| Success: | Total secondary FQDN Selection attempts that were successful. |
| Timeout: | Total number of PBU sent to the secondary FQDN that timed out. |
| Total Failures: | Total secondary FQDN Selection attempts that failed. |

show apn statistics name

Table 121: show apn statistics name Command Output Descriptions

| Field | Description |
|--|--|
| Data Statistics ('uplink'=to PDN, 'downlink'=from PDN): | |
| uplink bytes | The current total number of bytes sent on the Gi interface for the APN. |
| downlink bytes | The current total number of bytes received on the Gi interface for the APN. |
| uplink pkts | The current total number of IP packets sent from the Gi interface for the APN. |
| downlink pkts | The current total number of IP packets received from the Gi interface for the APN. |
| uplink pkts dropped | The current total number of IP packets for the APN that were dropped prior to sending over the Gi interface. |
| downlink pkts dropped | The current total number of IP packets received from the Gi interface for the APN and dropped. |

| Field | Description |
|------------------------------------|--|
| uplink bytes dropped | The current total number of IP bytes for the APN that were dropped prior to sending over the Gi interface. |
| downlink bytes dropped | The current total number of IP bytes received from the Gi interface for the APN and dropped. |
| uplink Flow MBR excd byte drop | Number of exceeded uplink bytes dropped due to maximum bit rate. |
| downlink Flow MBR excd byte drop | Number of exceeded downlink bytes dropped due to maximum bit rate. |
| uplink Flow MBR excd packet drop | Number of exceeded uplink packets dropped due to maximum bit rate. |
| downlink Flow MBR excd packet drop | Number of exceeded uplink packets dropped due to maximum bit rate. |
| uplink Flow GBR excd byte drop | Number of exceeded uplink bytes dropped due to guaranteed bit rate. |
| downlink Flow GBR excd byte drop | Number of exceeded downlink bytes dropped due to guaranteed bit rate. |
| uplink Flow GBR excd packet drop | Number of exceeded uplink packets dropped due to guaranteed bit rate. |
| downlink Flow GBR excd packet drop | Number of exceeded downlink packets dropped due to guaranteed bit rate. |
| uplink AMBR excd byte drop | Number of exceeded uplink bytes dropped due to APN Maximum bit rate. |
| downlink AMBR excd byte drop | Number of exceeded downlink bytes dropped due to APN Maximum bit rate. |
| uplink AMBR excd packet drop | Number of exceeded uplink packets dropped due to APN Maximum bit rate. |
| downlink AMBR excd packet drop | Number of exceeded downlink packets dropped due to APN Maximum bit rate. |
| uplink misc byte drop | Number of uplink bytes dropped due to miscellaneous reasons. |
| downlink misc byte drop | Number of downlink bytes dropped due to miscellaneous reasons. |
| uplink misc packet drop | Number of uplink packets dropped due to miscellaneous reasons. |
| downlink misc packet drop | Number of downlink packets dropped due to miscellaneous reasons. |
| ip bad hdr | The current total number IP packets received and dropped due to bad headers. |

| Field | Description |
|---|--|
| ip ttl exceeded | The current total number of IP packets dropped because they were received with TTL values of 0. |
| ip fragments sent | The current total number of number of times IP packets were fragmented before being sent over the Gi interface. |
| ip could not fragment | The current total number of IP packets which failed in fragmentation. |
| ip input acl drop | The current total number IP packets that were received and then dropped due to ACL filtering. NOTE: This counter may increment even if no ACL is configured. |
| ip output acl drop | The current total number of IP packets that were dropped prior to sending due to ACL filtering. |
| ip input css down drop | The current total number of IP packets the CSS received and then dropped. |
| ip output css down drop | The current total number of IP packets that were dropped prior to sending due to CSS filtering. |
| ip early pdu rcvd | The current total number of early IP packet data units (PDUs) received. |
| IP bad length trim | |
| ip source violations | The current total number of IP packets received for which source violations were detected and then dropped. |
| ip source violations no accounting | The IP packets received for source violations that were detected but not included in the statistics. |
| ip source violation ignored | The IP source validation violations that were detected and then ignored. |
| 802.1p priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. |
| Subscriber Session Statistics | |
| Default bearers active | The total number of active default bearers. |
| Dedicated bearers active | The total number of active dedicated bearers. |
| Default bearers setup | The total number of setup default bearers. |
| Dedicated bearers setup | The total number of setup dedicated bearers. |

| Field | Description |
|--|---|
| Default bearers released | The total number of default bearers released. |
| Dedicated bearers released | The total number of dedicated bearers released. |
| Default bearers rel fail | The total number of default bearer release failed. |
| Dedicated bearers rel fail | The total number of dedicated bearer release failed. |
| Default bearers rejected | The total number of default bearers rejected. |
| Dedicated bearers rejected | The total number of dedicated bearers rejected. |
| UE-init mod | The total number of UE initiated bearer modifications. |
| Network-init mod | The total number of network initiated bearer modifications. |
| UE-init mod fail | The total number of ue initiated modifications failed. |
| Network-init mod fail | The total number of network initiated modifications failed. |
| Total PDN-Type stats | |
| PDN-Type IPv4 sessions active | The total number of pdn ipv4 active sessions. |
| PDN-Type IPv4 sessions setup | The total number pdn ipv4 setup sessions. |
| PDN-Type IPv4 sessions released | The total number of pdn ipv4 sessions released. |
| PDN-Type IPv6 sessions active | The total number of pdn ipv6 active sessions. |
| PDN-Type IPv6 sessions setup | The total number pdn ipv6 setup sessions. |
| PDN-Type IPv6 sessions released | The total number pdn ipv6 sessions released. |
| PDN-Type IPv4v6 sessions active | The total number of pdn ipv4v6 active sessions. |
| PDN-Type IPv4v6 sessions setup | The total number pdn ipv4v6 setup sessions. |
| PDN-Type IPv4v6 sessions released | The total number pdn ipv4v6 sessions released. |
| Initiated Sessions per RAT Type | |
| EUTRAN | The total number of sessions initiated by EUTRAN. |
| UTRAN | The total number of sessions initiated by UTRAN. |
| GERAN | The total number of sessions initiated by GERAN. |
| EHRPD | The total number of sessions initiated by EHRPD. |
| S2A GTP | The total number of sessions initiated by S2A GTP. |
| S2B GTP | The total number of sessions initiated by S2B GTP. |
| S2B PMIP | The total number of sessions initiated by S2B PMIP. |

| Field | Description |
|-----------------------------------|---|
| Inter Technology Handovers | The Inter-Technology key performance indicators (KPIs) monitor RAT Initiated Sessions and inter-technology handovers so that operators can gauge 2G/3G/4G/WiFi/eHRPD coverage and determine how WiFi is penetrating as the first attach choice. The KPIs identify how a session is initiated and how many handoffs occur. |
| GNGP-to-LTE handover Attempted | The total number of GNGP-to-LTE handovers that have been attempted. |
| GNGP-to-LTE handover Succeeded | The total number of GNGP-to-LTE handovers that have succeeded. |
| GNGP-to-LTE handover Failed | The total number of GNGP-to-LTE handovers that have failed |
| LTE-to-GNGP handover Attempted | The total number of LTE-to-GNGP handovers that have been attempted. |
| LTE-to-GNGP handover Succeeded | The total number of LTE-to-GNGP handovers that have succeeded. |
| LTE-to-GNGP handover Failed | The total number of LTE-to-GNGP handovers that have failed. |
| GNGP-to-S4SGSN handover Attempted | The total number of GNGP-to-S4SGSN handovers that have been attempted. |
| GNGP-to-S4SGSN handover Succeeded | The total number of GNGP-to-S4SGSN handovers that have succeeded. |
| GNGP-to-S4SGSN handover Failed | The total number of GNGP-to-S4SGSN handovers that have failed. |
| S4SGSN-to-GNGP handover Attempted | The total number of S4-SGSN-to-GNGP handovers that have been attempted. |
| S4SGSN-to-GNGP handover Succeeded | The total number of S4SGSN-to-GNGP handovers that have succeeded. |
| S4SGSN-to-GNGP handover Failed | The total number of S4SGSN-to-GNGP handovers that have failed. |
| S4SGSN-to-LTE handover Attempted | The total number of S4SGSN-to-LTE handovers that have been attempted. |
| S4SGSN-to-LTE handover Succeeded | The total number of S4SGSN-to-LTE handovers that have succeeded. |
| S4SGSN-to-LTE handover Failed | The total number of S4SGSN-to-LTE handovers that have failed. |
| LTE-to-S4SGSN handover Attempted | The total number of LTE-to-S4SGSN handovers that have been attempted. |

| Field | Description |
|-------------------------------------|--|
| LTE-to-S4SGSN handover Succeeded | The total number of LTE-to-S4SGSN handovers that have succeeded. |
| LTE-to-S4SGSN handover Failed | The total number of LTE-to-S4SGSN handovers that have failed. |
| LTE-to-eHRPD handover Attempted | The total number of LTE-to-eHRPD handovers that have been attempted. |
| LTE-to-eHRPD handover Succeeded | The total number of LTE-to-eHRPD handovers that have succeeded. |
| LTE-to-eHRPD handover Failed | The total number of LTE-to-eHRPD handovers that have failed. |
| eHRPD-to-LTE handover Attempted | The total number of eHRPD-to-LTE handovers that have been attempted. |
| eHRPD-to-LTE handover Succeeded | The total number of eHRPD-to-LTE handovers that have succeeded. |
| eHRPD-to-LTE handover Failed | The total number of eHRPD-to-LTE handovers that have failed. |
| LTE-to-S2bPMIP handover Attempted | The total number of LTE-to-S2bPMIP handovers that have been attempted. |
| LTE-to-S2bPMIP handover Succeeded | The total number of LTE-to-S2bPMIP handovers that have succeeded. |
| LTE-to-S2bPMIP handover Failed | The total number of LTE-to-S2bPMIP handovers that have failed. |
| S2bPMIP-to-LTE handover Attempted | The total number of S2bPMIP-to-LTE handovers that have been attempted. |
| S2bPMIP-to-LTE handover Succeeded | The total number of S2bPMIP-to-LTE handovers that have succeeded. |
| S2bPMIP-to-LTE handover Failed | The total number of S2bPMIP-to-LTE handovers that have failed. |
| eHRPD-to-S2bPMIP handover Attempted | The total number of eHRPD-to-S2bPMIP handovers that have been attempted. |
| eHRPD-to-S2bPMIP handover Succeeded | The total number of eHRPD-to-S2bPMIP handovers that have succeeded. |
| eHRPD-to-S2bPMIP handover Failed | The total number of eHRPD-to-S2bPMIP handovers that have failed. |
| S2bPMIP-to-eHRPD handover Attempted | The total number of S2bPMIP-to-eHRPD handovers that have been attempted. |
| S2bPMIP-to-eHRPD handover Succeeded | The total number of S2bPMIP-to-eHRPD handovers that have succeeded. |

| Field | Description |
|-------------------------------------|---|
| S2bPMIP-to-eHRPD handover Failed | The total number of S2bPMIP-to-eHRPD handovers that have failed. |
| S2bGTP-to-LTE handover Attempted | The total number of S2bGTP-to-LTE handovers that have been attempted. |
| S2bGTP-to-LTE handover Succeeded | The total number of S2bGTP-to-LTE handovers that have succeeded. |
| S2bGTP-to-LTE handover Failed | The total number of S2bGTP-to-LTE handovers that have failed. |
| LTE-to-S2bGTP handover Attempted | The total number of LTE-to-S2bGTP handovers that have been attempted. |
| LTE-to-S2bGTP handover Succeeded | The total number of LTE-to-S2bGTP handovers that succeeded. |
| LTE-to-S2bGTP handover Failed | The total number of LTE-to-S2bGTP handovers that failed. |
| S2bGTP-to-eHRPD handover Attempted | The total number of S2bGTP-to-eHRPD handovers that have been attempted. |
| S2bGTP-to-eHRPD handover Succeeded | The total number of S2bGTP-to-eHRPD handovers that have succeeded. |
| S2bGTP-to-eHRPD handover Failed | The total number of S2bGTP-to-eHRPD handovers that have failed. |
| eHRPD-to-S2bGTP handover Attempted | The total number of eHRPD-to-S2bGTP handovers that have been attempted. |
| eHRPD-to-S2bGTP handover Successful | The total number of eHRPD-to-S2bGTP handovers that have succeeded. |
| eHRPD-to-S2bGTP handover Failed | The total number of eHRPD-to-S2bGTP handovers that have failed. |
| S2aGTP-to-LTE handover Attempted | The total number of S2aGTP-to-LTE handovers that have been attempted. |
| S2aGTP-to-LTE handover Succeeded | The total number of S2aGTP-to-LTE handovers that have succeeded. |
| S2aGTP-to-LTE handover Failed | The total number of S2aGTP-to-LTE handovers that have failed. |
| LTE-to-S2aGTP handover Attempted | The total number of LTE-to-S2aGTP handovers that have been attempted. |
| LTE-to-S2aGTP handover Succeeded | The total number of LTE-to-S2aGTP handovers that have succeeded. |
| LTE-to-S2aGTP handover Failed | The total number of LTE-to-S2aGTP handovers that have failed. |

| Field | Description |
|---|---|
| LTE-to-S2bGTP handover Succeeded on First Uplink Data on S2b tunnel | Specifies the number of handover due to Uplink packets. |
| LTE-to-S2bGTP handover Succeeded on Timer Expiry | Specifies the number of handover due to Timer Expiry. |
| IP Address Allocation Statistics | |
| Total IPv4 addrs allocated: Local pool add assign | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses from pools configured locally on the system. |
| Total IPv4 addrs allocated: Static addr assign | The current total number of PDP contexts facilitated by the APN that used static IP address. |
| Total IPv4 addrs allocated: aaa provided addr | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses from a AAA server. |
| Total IPv4 addrs allocated: skipped ip validation for L3 tunnels | The current total number of PDP contexts facilitated by the APN that were skipped validation for L3 tunnels. |
| Total IPv4 addrs allocated: DHCP proxy assign | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses by the system using the DHCP client mode. |
| Total IPv4 addrs allocated: DHCP relay assign | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses by the system using the DHCP relay mode. |
| Total IPv4 addrs allocated: No allocation | The current total number of PDP contexts facilitated by the APN that were not dynamically allocated IP addresses. This counters is relevant for a multicast sessions (MBMS) where IP allocation is not applicable. |
| Total IPv6 addrs allocated: Stateless auto config | The current total number ipv6 address allocation by stateless auto configuration. |
| Total IPv6 addrs allocated: Local pool add assign | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses from pools configured locally on the system. |
| Total IPv6 addrs allocated: Static addr assign | The current total number of PDP contexts facilitated by the APN that used static IPv6 address. |
| Total IPv6 addrs allocated: No allocation | The current total number of PDP contexts facilitated by the APN that were not dynamically allocated IPv6 addresses. This counters is relevant for a multicast sessions (MBMS) where IPv6 allocation is not applicable. |
| Total IPv6 addrs allocated: skipped ip validation for L3 tunnels | The current total number of PDP contexts facilitated by the APN that were skipped validation for L3 tunnels. |

| Field | Description |
|---|--|
| Total IPv6 addrs allocated: DHCPv6 proxy assign | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses by the system using the DHCP client mode. |
| Total IPv6 addrs allocated: aaa provided addr | The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses from a AAA server. |
| No allocation | The current total number of PDP contexts facilitated by the APN that were not allocated IPv6 addresses. |
| skipped ip validation for L3 tunnels | The current total number of PDP contexts facilitated by the APN IP validation was skipped for L3 tunnels. |
| 4G Bearers Released by Reason | |
| Admin disconnect: QCI n | The number of administrative disconnects of sessions for QCI n. Where n is a QCI value from 1 to 9, or 65, 66, 68, or 69. |
| Subscriber QoS Statistics | |
| QCI n: Bearer Active | The current total number of bearers with qci n active. Here n (qci-val) is the QCI for which the negotiate limit is being set, it ranges from 1 to 9 , or is a new standard QCI value of 65, 66, 69 or 70). |
| QCI n: Bearer Setup | The current total number of bearers with qci n setup. |
| QCI n: Bearer Released | The current total number of bearers with qci n released. |
| QCI n: Bearer Rejected | The current total number of bearers with qci n rejected. |
| QCI n: Uplink Bytes Forwarded | The current total number of uplink bytes forwarded for qci n. |
| QCI n: Downlink Bytes Forwarded | The current total number of downlink bytes forwarded for qci n. |
| QCI n: Uplink Packets Forwarded | The current total number of uplink packets forwarded for qci n. |
| QCI n: Downlink Packets Forwarded | The current total number of downlink packets forwarded for qci n. |
| QCI n: Uplink Bytes Dropped | The current total number of uplink bytes dropped for qci n. |
| QCI n: Downlink Bytes Dropped | The current total number of downlink bytes dropped for qci n. |
| QCI n: Uplink Packets Dropped | The current total number of uplink packets dropped for qci n. |
| QCI n: Downlink Packets Dropped | The current total number of downlink packets dropped for qci n. |
| QCI n: Uplink Bytes dropped(MBR Excd) | The current total number of uplink bytes dropped for qci n due to exceeded MBR. |

| Field | Description |
|--|--|
| QCI n: Downlink Bytes dropped(MBR Excd) | The current total number of downlink bytes dropped for qci n due to exceeded MBR. |
| QCI n: Uplink pkts dropped(MBR Excd) | The current total number of uplink packets dropped for qci n due to exceeded MBR. |
| QCI n: Downlink pkts dropped(MBR Excd) | The current total number of downlink packets dropped for qci n due to exceeded MBR. |
| Non-Std QCI(Non-GBR): Bearer Active | The current total number of active bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Bearer setup | The current total number of setup bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Bearer Released | The current total number of released bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Uplink Bytes forwarded | The current total number of uplink bytes forwarded for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Downlink Bytes forwarded | The current total number of downlink bytes forwarded for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Uplink pkts forwarded | The current total number of uplink packets forwarded for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Downlink pkts forwarded | The current total number of downlink packets forwarded for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Uplink Bytes dropped | The current total number of uplink bytes dropped for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Downlink Bytes dropped | The current total number of downlink bytes dropped for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Uplink pkts dropped | The current total number of uplink packets dropped for non-standard (non-GBR) qci. |
| Non-Std QCI(Non-GBR): Downlink pkts dropped | The current total number of downlink packets dropped for non-standard (non-GBR) qci. |
| Non-Std QCI(GBR): Bearer Active | The current total number of active bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(GBR): Bearer setup | The current total number of setup bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(GBR): Bearer Released | The current total number of released bearers with non-standard (non-GBR) qci. |
| Non-Std QCI(GBR): Uplink Bytes forwarded | The current total number of uplink bytes forwarded for non-standard (GBR) qci. |

| Field | Description |
|--|--|
| Non-Std QCI(GBR): Downlink Bytes forwarded | The current total number of downlink bytes forwarded for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Uplink pkts forwarded | The current total number of uplink packets forwarded for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Downlink pkts forwarded | The current total number of downlink packets forwarded for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Uplink Bytes dropped | The current total number of uplink bytes dropped for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Downlink Bytes dropped | The current total number of downlink bytes dropped for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Uplink pkts dropped | The current total number of uplink packets dropped for non-standard (GBR) qci. |
| Non-Std QCI(GBR): Downlink pkts dropped | The current total number of downlink packets dropped for non-standard (GBR) qci. |
| Invalid/ Not-Configured QCI: Bearer Rejected | The current total number of bearers rejected with invalid or non-configures qci. |
| Session statistics | |
| current contexts (selected APN(s)) | The current total number of PDP contexts facilitated by the APN. |
| current contexts (system wide) | The current total number of PDP contexts facilitated by the entire system. |
| cumulative contexts (selected APN(s)) | The cumulative number of PDP contexts facilitated by the APN. |
| cumulative contexts (system wide) | The cumulative number of PDP contexts facilitated by the entire system. |
| Current APN context load | Current APN context load = (current contexts (selected APN(s)) / current contexts (system wide)) * 100. |
| Cumulative APN context load | The cumulative percent utilization of the APN as function of the APN's configured maximum number of supported PDP contexts and the cumulative number of PDP contexts facilitated by the APN. |
| Pilot packet statistics | |
| NAT-Alloc | The total number of Pilot Packets sent per APN for every IP/Port allocation for all NAT enabled calls. |
| NAT-De-Alloc | The total number of Pilot Packets sent per APN for every IP/Port deallocation for all NAT enabled calls. |

| Field | Description |
|------------------------------|--|
| Non-NAT-Alloc | The total number of Pilot Packets sent per APN for every IP/Port allocation for all non-NAT calls. |
| Non-NAT-De-Alloc | The total number of Pilot Packets sent per APN for every IP/Port deallocation for all non-NAT calls. |
| Total-Alloc | The total number of Pilot Packets sent per APN for every IP/Port allocation for all call types. |
| Total-De-Alloc | The total number of Pilot Packets sent per APN for every IP/Port deallocation for all call types. |
| RAT-Change-User-Info | The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change. |
| RAT-Change-NAT-Info | The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change. |
| AAA-Counters | |
| Authentication Counters | |
| Access-Request Sent | The total number of access requests that were sent. |
| Access-Request Timeouts | The total number of access request timeouts. |
| Accounting Counters | |
| Accounting-Request Sent | The total number of accounting requests that were sent. |
| Accounting-Response Received | The total number of accounting responses that were received. |
| Accounting-Request Timeouts | The total number of accounting request timeouts. |
| RADIUS Acct-Req purged | The total number of RADIUS accounting requests purged. |
| GTPP Acct-req purged | The total number of GTPP accounting requests purged. |
| GTPP sec Acct-req purged | The total number of secondary G-CDR accounting requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF) . It counts total secondary G-CDR accounting requests purged by this AAAMgr instance |
| GTPP Chrg-req purged | The total number of GTPP charging requests purged. |
| GTPP sec Chrg-req purged | The total number of secondary eG-CDR charging requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the charging message to the Charging Gateway Function (CGF). It counts total secondary eG-CDR charging requests purged by this AAAMgr instance |

show apn statistics name qci

Table 122: show apn statistics name qci Command Output Descriptions

| Field | Description |
|---|---|
| Data Statistics | |
| Uplink Bytes | The total number of uplink bytes received. |
| Uplink Packets | The total number of uplink packets received. |
| Uplink Bytes dropped | The total number of uplink bytes dropped for any reason. |
| Uplink Pkts dropped | The total number of uplink packets dropped for any reason. |
| Downlink Bytes | The total number of downlink bytes. |
| Downlink Pkts | The total number of downlink packets. |
| Downlink Bytes dropped | The total number of downlink bytes dropped for any reason. |
| Downlink Pkts dropped | The total number of downlink packets dropped for any reason. |
| Uplink Dropped: This section provides detailed reasons for uplink byte and packet drops. | |
| MBR Exceeded (Bytes) | The total number of uplink IP bytes dropped due to exceeding the maximum bit rate (MBR). |
| MBR Exceeded (Pkts) | The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR). |
| AMBR Exceeded (Bytes) | The total number of uplink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR). |
| AMBR Exceeded (Pkts) | The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR). |
| Miscellaneous (Bytes) | The total number of uplink IP bytes dropped for miscellaneous reasons. |
| Miscellaneous (Pkts) | The total number of uplink IP packets dropped for miscellaneous reasons. |
| Overcharge Prctn (Bytes) | The total number of IP input bytes dropped due to Overcharging protection. |
| Overcharge Prctn (Pkts) | The total number of IP input packets dropped due to overcharging protection. |

| Field | Description |
|-------------------------------|--|
| SGW Restoration (Bytes) | The total number of IP input bytes dropped due to S-GW Restoration. |
| SGW Restoration (Pkts) | The total number of IP input packets dropped due to S-GW Restoration. |
| SDF Gate (Bytes) | The total number of IP input bytes dropped due to Dynamic Rule level throttling. |
| SDF Gate (Pkts) | The total number of IP input packets dropped due to Dynamic Rule level throttling. |
| ITC Gate (Bytes) | The total number of IP input bytes dropped due to flow limits exceeded. |
| ITC Gate (Pkts) | The total number of IP input packets dropped due to flow limits being exceeded. |
| Flow Terminated (Bytes) | The total number of IP input bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Flow Terminated (Pkts) | The total number of IP input packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Subsession Terminated (Bytes) | The total number of IP input bytes dropped due to Bearer termination. |
| Subsession Terminated (Pkts) | The total number of IP input packets dropped due to Bearer termination. |
| Call Terminated (Bytes) | The total number of IP input bytes dropped due to session termination. |
| Call Terminated (Pkts) | The total number of IP input packets dropped due to session termination. |
| DCCA Discard (Bytes) | The total number of IP input bytes dropped due to DCCA not enabled but charging action has credit-control configured. |
| DCCA Discard (Pkts) | The total number of IP input packets dropped due to DCCA not enabled but charging action has credit-control configured. |
| No Rule Match (Bytes) | The total number of IP input bytes dropped due to no rule match. |

| Field | Description |
|---|--|
| No Rule Match (Pkts) | The total number of IP input packets dropped due to no rule match. |
| ICAP (Bytes) | The total number of IP input bytes dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow. |
| ICAP (Pkts) | The total number of IP input packets dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow. |
| SFW (Bytes) | The total number of IP input bytes dropped due to SFW (Software Firewall) action. |
| SFW (Pkts) | The total number of IP input packets dropped due to Software Firewall (SFW) action. |
| Hierarchical ENF (Bytes) | The total number of IP input bytes dropped due to Hierarchical enforcement flow status. |
| Hierarchical ENF (Pkts) | The total number of IP input packets dropped due to Hierarchical enforcement flow status. |
| Dynamic CA Gate (Bytes) | The total number of IP input bytes dropped due to dynamic CA gate. |
| Dynamic CA Gate (Pkts) | The total number of IP input packets dropped due to dynamic CA gate. |
| NAT64 Cancel (Bytes) | The total number of IP input bytes dropped because IPv6 packets received are translated to IPv4 by NAT. |
| NAT64 Cancel (Pkts) | The total number of IP input packets dropped because IPv6 packets received are translated to IPv4 by NAT. |
| Bearer Not Found (Bytes) | The total number of IP input bytes dropped because an associated bearer was not found. |
| Bearer Not Found (Pkts) | The total number of IP input packets dropped because no associated bearer was found. |
| Downlink Dropped: This section provides detailed reasons for downlink byte and packet drops. | |
| MBR Exceeded (Bytes) | The total number of downlink IP bytes dropped due to exceeding the maximum bit rate (MBR). |
| MBR Exceeded (Pkts) | The total number of downlink IP packets dropped due to exceeding the maximum bit rate (MBR). |
| AMBR Exceeded (Bytes) | The total number of downlink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR). |

| Field | Description |
|-------------------------------|---|
| AMBR Exceeded (Pkts) | The total number of downlink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR). |
| Miscellaneous (Bytes) | The total number of downlink IP bytes dropped for miscellaneous reasons. |
| Miscellaneous (Pkts) | The total number of downlink IP packets dropped for miscellaneous reasons. |
| Overcharge Prtctn (Bytes) | The total number of IP output bytes dropped due to Overcharging protection. |
| Overcharge Prtctn (Pkts) | The total number of IP output packets dropped due to Overcharging protection. |
| SGW Restoration (Bytes) | The total number of IP output bytes dropped due to SGW Restoration. |
| SGW Restoration (Pkts) | The total number of IP output packets dropped due to SGW Restoration. |
| SDF Gate (Bytes) | The total number of IP output bytes dropped due to Dynamic Rule level throttling. |
| SDF Gate (Pkts) | The total number of IP output packets dropped due to Dynamic Rule level throttling. |
| ITC Gate (Bytes) | The total number of IP output bytes dropped due to flow limits being exceeded. |
| ITC Gate (Pkts) | The total number of IP output packets dropped due to flow limits being exceeded. |
| Flow Terminated (Bytes) | The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Flow Terminated (Pkts) | The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Subsession Terminated (Bytes) | The total number of IP output bytes dropped due to bearer termination. |
| Subsession Terminated (Pkts) | The total number of IP output packets dropped due to bearer termination. |
| Call Terminated (Bytes) | The total number of IP output bytes dropped due to session termination. |

| Field | Description |
|---------------------------------------|--|
| Call Terminated (Pkts) | The total number of IP output packets dropped due to session termination. |
| DCCA Discard (Bytes) | The total number of IP output bytes dropped due to DCCA not enabled but charging action has credit-control configured. |
| DCCA Discard (Pkts) | The total number of IP output packets dropped due to DCCA not enabled but charging action has credit-control configured. |
| No Rule Match (Bytes) | The total number of IP output bytes dropped due to no rule match. |
| No Rule Match (Pkts) | The total number of IP output packets dropped due to no rule match. |
| ICAP (Bytes) | N/A |
| ICAP (Pkts) | N/A |
| SFW (Bytes) | The total number of IP output bytes dropped due to SFW (Software Firewall) action. |
| SFW (Pkts) | The total number of IP output packets dropped due to SFW (Software Firewall) action. |
| Hierarchical ENF (Bytes) | The total number of IP output bytes dropped due to Hierarchical enforcement flow status. |
| Hierarchical ENF (Pkts) | The total number of IP output packets dropped due to Hierarchical enforcement flow status. |
| Dynamic CA Gate (Bytes) | The total number of IP output bytes dropped due to dynamic CA gate. |
| Dynamic CA Gate (Pkts) | The total number of IP output packets dropped due to dynamic CA gate. |
| NAT64 Cancel (Bytes) | The total number of IP output bytes dropped because IPv6 packets received are translated to IPv4 by NAT. |
| NAT64 Cancel (Pkts) | The total number of IP output packets dropped because IPv6 packets received are translated to IPv4 by NAT. |
| Bearer Not Found (Bytes) | The total number of IP output bytes dropped because an associated bearer was not found. |
| Bearer Not Found (Pkts) | The total number of IP output packets dropped because an associated bearer was not found. |
| 4G Bearers Released by Reasons | |

| Field | Description |
|---|--|
| Admin Disconnect | The total number of 4G bearers released for each QCI 1 through 9 due to an Administrative disconnect. |
| ARP level distribution of 4G Bearer Released by Reasons | |
| Admin Disconnect | The total number of administrative disconnects by QCI n/ARP n value. Where QCI n is a value from 1 through 9 and its associated ARP n values are from 1 to 15. |
| Subscriber QoS Statistics: Provides detailed packet/byte drop statistics for QCI n/ARP n. Where QCI is a value from 1 through 9 and its associated ARP n values are from 1 through 15; | |
| Bearer Active | |
| Bearer Released | |
| Bearer Setup | |
| Bearer Rejected | |
| Uplink Bytes forwarded | |
| Uplink Bytes forwarded | |
| Uplink Bytes dropped | |
| Uplink Pkts dropped | |
| Downlink Bytes forwarded | |
| Downlink Pkts forwarded | |
| Downlink Bytes dropped | |
| Downlink Pkts dropped | |
| Uplink Dropped: This section provides detailed uplink packet/byte drop information for all QCI n/ARP n values. | |
| MBR Exceeded (Bytes) | The total number of uplink IP bytes dropped due to exceeding the maximum bit rate (MBR). |
| MBR Exceeded (Pkts) | The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR). |
| AMBR Exceeded (Bytes) | The total number of uplink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR). |
| AMBR Exceeded (Pkts) | The total number of uplink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR). |

| Field | Description |
|-------------------------------|--|
| Miscellaneous (Bytes) | The total number of uplink IP bytes dropped for miscellaneous reasons. |
| Miscellaneous (Pkts) | The total number of uplink IP packets dropped for miscellaneous reasons. |
| Overcharge Prtctn (Bytes) | The total number of IP input bytes dropped due to Overcharging protection. |
| Overcharge Prtctn (Pkts) | The total number of IP input packets dropped due to overcharging protection. |
| SGW Restoration (Bytes) | The total number of IP input bytes dropped due to S-GW Restoration. |
| SGW Restoration (Pkts) | SGW Restoration (Pkts): The total number of IP input packets dropped due to S-GW Restoration. |
| SDF Gate (Bytes) | The total number of IP input bytes dropped due to Dynamic Rule level throttling. |
| SDF Gate (Pkts) | The total number of IP input packets dropped due to Dynamic Rule level throttling. |
| ITC Gate (Bytes) | The total number of IP input bytes dropped due to flow limits exceeded. |
| ITC Gate (Pkts) | The total number of IP input packets dropped due to flow limits being exceeded. |
| Flow Terminated (Bytes) | The total number of IP input bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Flow Terminated (Pkts) | The total number of IP input packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Subsession Terminated (Bytes) | The total number of IP input bytes dropped due to Bearer termination. |
| Subsession Terminated (Pkts) | The total number of IP input packets dropped due to Bearer termination. |
| Call Terminated (Bytes) | The total number of IP input bytes dropped due to session termination. |
| Call Terminated (Pkts) | The total number of IP input packets dropped due to session termination. |

| Field | Description |
|--------------------------|--|
| DCCA Discard (Bytes) | The total number of IP input bytes dropped due to DCCA not enabled but charging action has credit-control configured. |
| DCCA Discard (Pkts) | The total number of IP input packets dropped due to DCCA not enabled but charging action has credit-control configured. |
| No Rule Match (Bytes) | The total number of IP input bytes dropped due to no rule match. |
| No Rule Match (Pkts) | The total number of IP input packets dropped due to no rule match. |
| ICAP (Bytes) | The total number of IP input bytes dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow. |
| ICAP (Pkts) | The total number of IP input packets dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow. |
| SFW (Bytes) | The total number of IP input bytes dropped due to SFW (Software Firewall) action. |
| SFW (Pkts) | The total number of IP input packets dropped due to Software Firewall (SFW) action. |
| Hierarchical ENF (Bytes) | The total number of IP input bytes dropped due to Hierarchical enforcement flow status. |
| Hierarchical ENF (Pkts) | The total number of IP input packets dropped due to Hierarchical enforcement flow status. |
| Dynamic CA Gate (Bytes) | The total number of IP input bytes dropped due to dynamic CA gate. |
| Dynamic CA Gate (Pkts) | The total number of IP input packets dropped due to dynamic CA gate. |
| NAT64 Cancel (Bytes) | The total number of IP input bytes dropped because IPv6 packets received are translated to IPv4 by NAT. |
| NAT64 Cancel (Pkts) | The total number of IP input packets dropped because IPv6 packets received are translated to IPv4 by NAT. |
| Bearer Not Found (Bytes) | The total number of IP input bytes dropped because an associated bearer was not found. |
| Bearer Not Found (Pkts) | The total number of IP input packets dropped because an associated bearer was not found. |

| Field | Description |
|---|---|
| Downlink Dropped: This section provides detailed downlink packet/byte drop information for all QCI n/ARP n values. | |
| MBR Exceeded (Bytes) | The total number of downlink IP bytes dropped due to exceeding the maximum bit rate (MBR). |
| MBR Exceeded (Pkts) | The total number of downlink IP packets dropped due to exceeding the maximum bit rate (MBR). |
| AMBR Exceeded (Bytes) | The total number of downlink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR). |
| AMBR Exceeded (Pkts) | The total number of downlink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR). |
| Miscellaneous (Bytes) | The total number of downlink IP bytes dropped for miscellaneous reasons. |
| Miscellaneous (Pkts) | The total number of downlink IP packets dropped for miscellaneous reasons. |
| Overcharge Prtctn (Bytes) | The total number of IP output bytes dropped due to Overcharging protection. |
| Overcharge Prtctn (Pkts) | The total number of IP output packets dropped due to Overcharging protection. |
| SGW Restoration (Bytes) | The total number of IP output bytes dropped due to S-GW Restoration. |
| SGW Restoration (Pkts) | The total number of IP output packets dropped due to S-GW Restoration. |
| SDF Gate (Bytes) | The total number of IP output bytes dropped due to Dynamic Rule level throttling. |
| SDF Gate (Pkts) | The total number of IP output packets dropped due to Dynamic Rule level throttling. |
| ITC Gate (Bytes) | The total number of IP output bytes dropped due to flow limits exceeded. |
| ITC Gate (Pkts) | The total number of IP output packets dropped due to flow limits being exceeded. |
| Flow Terminated (Bytes) | The total number of IP output bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |

| Field | Description |
|-------------------------------|---|
| Flow Terminated (Pkts) | The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS. |
| Subsession Terminated (Bytes) | The total number of IP output bytes dropped due to Bearer termination. |
| Subsession Terminated (Pkts) | The total number of IP output packets dropped due to Bearer termination. |
| Call Terminated (Bytes) | The total number of IP output bytes dropped due to session termination. |
| Call Terminated (Pkts) | The total number of IP output packets dropped due to session termination. |
| DCCA Discard (Bytes) | The total number of IP output bytes dropped due to DCCA not enabled but charging action has credit-control configured. |
| DCCA Discard (Pkts) | The total number of IP output packets dropped due to DCCA not enabled but charging action has credit-control configured. |
| No Rule Match (Bytes) | The total number of IP output bytes dropped due to no rule match. |
| No Rule Match (Pkts) | The total number of IP output packets dropped due to no rule match. |
| ICAP (Bytes) | N/A |
| ICAP (Pkts) | N/A |
| SFW (Bytes) | The total number of IP output bytes dropped due to SFW (Software Firewall) action. |
| SFW (Pkts) | The total number of IP output packets dropped due to SFW (Software Firewall) action. |
| Hierarchical ENF (Bytes) | The total number of IP output bytes dropped due to Hierarchical enforcement flow status. |
| Hierarchical ENF (Pkts) | The total number of IP output packets dropped due to Hierarchical enforcement flow status. |
| Dynamic CA Gate (Bytes) | The total number of IP output bytes dropped due to dynamic CA gate. |
| Dynamic CA Gate (Pkts) | The total number of IP output packets dropped due to dynamic CA gate. |

| Field | Description |
|--------------------------|--|
| NAT64 Cancel (Bytes) | The total number of IP output bytes dropped because IPv6 packets received are translated to IPv4 by NAT. |
| NAT64 Cancel (Pkts) | The total number of IP output packets dropped because IPv6 packets received are translated to IPv4 by NAT. |
| Bearer Not Found (Bytes) | The total number of IP output bytes dropped because an associated bearer was not found. |
| Bearer Not Found (Pkts) | The total number of IP output packets dropped because an associated bearer was not found. |



CHAPTER 10

show apn-profile

This chapter describes the output of the **show apn-profile** command.

- [show apn-profile full name](#), on page 499

show apn-profile full name

Table 123: show apn-profile full name Command Output Descriptions

| Field | Description |
|---|---|
| APN Profile Name | Indicates the name of the Access Point Name (APN) profile. |
| Resolution Priority | Indicates the address-resolution-mode configured for this APN Profile. Possible values are dns-fallback and local. |
| Charging Characteristics Prefer Local | Indicates whether the APN profile prefers the charging characteristics settings from the APN profile instead of the charging characteristics received from the HLR. |
| Charging Characteristics Behavior | Indicates the behavior bit in charging characteristics provided by the APN profile when the HLR does not provide a value. |
| Charging Characteristics Profile-Index | Indicates the charging characteristics profile index specified by the APN profile, such as 4 for prepaid billing or 8 for normal billing. |
| 3gpp qos to dscp Uplink mapping | |
| This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) uplink mapping information. | |
| conversational | Indicates the DSCP configured for conversational type of traffic. |
| streaming | Indicates the DSCP configured for streaming type of traffic. |
| interactive (TP 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1. |
| interactive (TP 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2. |

| Field | Description |
|--|--|
| interactive (TP 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3. |
| 3gpp qos to dscp Uplink mapping based on Allocation Priority | |
| This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) uplink mapping information based on allocation priority. | |
| interactive (TP 1, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1. |
| interactive (TP 1, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2. |
| interactive (TP 1, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3. |
| interactive (TP 2, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1. |
| interactive (TP 2, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2. |
| interactive (TP 2, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3. |
| interactive (TP 3, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1. |
| interactive (TP 3, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2. |
| interactive (TP 3, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3. |
| 3gpp qos to Downlink mapping | |
| This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) downlink mapping information. | |
| conversational | Indicates the DSCP configured for conversational type of traffic. |
| streaming | Indicates the DSCP configured for streaming type of traffic. |
| interactive (TP 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1. |
| interactive (TP 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2. |
| interactive (TP 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3. |

| Field | Description |
|--|--|
| 3gpp qos to dscp Downlink mapping based on Allocation Priority | |
| This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) downlink mapping information based on allocation priority. | |
| interactive (TP 1, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1. |
| interactive (TP 1, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2. |
| interactive (TP 1, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3. |
| interactive (TP 2, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1. |
| interactive (TP 2, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2. |
| interactive (TP 2, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3. |
| interactive (TP 3, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1. |
| interactive (TP 3, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2. |
| interactive (TP 3, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3. |
| IP Source Validation | Indicates whether check for IP source validation violations is enabled. |
| Direct Tunnel | Indicates if the SGSN allows direct tunneling if the direct tunneling is supported by destination node. |
| Service Restriction for Access Type > UMTS | Indicates if the SGSN is configured to restrict the PDP context activation from Universal Mobile Telecommunications Systems (3G) network access. |
| Inactivity Idle timeout in seconds | Indicates the PDP inactivity timeout value in seconds. |
| Inactivity Idle timeout action | Indicates the action to be taken when the PDP inactivity timeout value is reached. |
| Inactivity Idle timeout action condition | Indicates the condition that warrants a PDP detach when PDP inactivity timeout value is reached. |
| Allocation OR Retention Priority | Indicates the QoS Allocation/Retention Priority. |
| Traffic Policing | |

| Field | Description |
|--|--|
| Traffic Policing Uplink | Indicates if traffic policing is configured for uplink traffic. |
| Traffic Policing Downlink | Indicates if traffic policing is configured for downlink traffic. |
| [SaMOG] IP ACL IN | |
| [SaMOG] IP ACL OUT | |
| [SaMOG] IP CONTEXT NAME | |
| [SaMOG] IP POOL NAME | |
| [SaMOG] IPv6 Prefix Pool Name | Indicates the IPv6 pool name to be used by SaMOG if the 'Framed-IPv6-Pool' AVP is unavailable in the Diameter AA-Answermessage. |
| [SaMOG] IPv6 Unsolicited Router Advertisement options: | |
| Number of router advts to deprecate prefix | Indicates the number of times unsolicited router advertisement must be sent to deprecate an IPv6 prefix. |
| Interval between router advts to deprecate prefix | Indicates the interval between each unsolicited router advertisement to deprecate an IPv6 prefix. |
| Number of router advts to advertise prefix | Indicates the number of times unsolicited router advertisement must be sent to advertise an IPv6 prefix. |
| Interval between router advts to advertise prefix | Indicates the interval between each unsolicited router advertisement to advertise an IPv6 prefix. |
| [SaMOG] IP RULEBASE | |
| [SaMOG] DNS PRIMARY | |
| [SaMOG] DNS SECONDARY | |
| [SaMOG] IPv6 DNS PRIMARY | |
| [SaMOG] IPv6 DNS Secondary | |
| [SaMOG] DHCP SHORT LEASE | Indicates the DHCP short lease time for web authorization sessions to force the UE to initiate DHCP request after the pre-authentication phase completes |
| [SaMOG] DHCP LEASE TIME | Indicates the lease time for the UE's IP address during the web authorization TAL phase. |
| [SaMOG] DF-SET FRAGMENTATION OPTION | |
| [SaMOG] FRAGMENTATION TYPE | |
| Idle Mode ACL (SGW) | |

| Field | Description |
|---|--|
| IPv4 ACL | Indicates the configuration of access control lists (ACLs) that define rules to apply to downlink data destined for UEs in an idle mode - IPv4. |
| IPv6 ACL | Indicates the configuration of access control lists (ACLs) that define rules to apply to downlink data destined for UEs in an idle mode - IPv6. |
| DNS Extension with MSISDN | Indicates whether the SGSN is configured to append an offset group of digits from the MSISDN to the APN string that is being sent in the DNS query. |
| DNS Extension with LAC-RAC | Indicates whether the SGSN is configured to append geographical information to the APN string that is being sent in the DNS query. |
| Fallback on DNS Failure | Indicates whether fallback on DNS failure is enabled or disabled. |
| DNS Extension with RNC-ID | Indicates whether the SGSN is configured to include the ID of the calling RNC in the APN string that is being sent in the DNS query. |
| DNS Extension with Charging Characteristics | Indicates whether the SGSN is configured to include the profile index value of the charging characteristics in the APN string that is being sent in the DNS query. |
| SNAPTR DNS Query for APN Resolution | Indicates whether the SGSN is configured to send Straightforward Name Authority Pointer (SNAPTR) type DNS query for APN resolution. |
| P-GW | |
| IP-Address | Indicates the IP address of the P-GW supporting APNs associated with this APN profile. |
| S5-S8-Protocol | Indicates the S5-S8 protocol configured for the this P-GW. |
| Weight | Indicates the weight assigned to this P-GW for load balancing purposes. |
| QOS APN-AMBR | |
| MAX uplink | Indicates the aggregate maximum bit rate (AMBR) for uplink (subscriber to network) traffic. |
| MAX downlink | Indicates the aggregate maximum bit rate (AMBR) for downlink (network to subscriber) traffic. |
| QOS Default BRR | |
| QCI | Indicates the QoS Class Identifier (QCI) for the default bearer. |
| ARP | Indicates the QoS address retention priority (ARP) value for the default bearer. |

| Field | Description |
|---|---|
| Preemption-Capability | Indicates the configuration of the QoS preemption capability flag for the default bearer. |
| Preemption-Vulnerability | Indicates the configuration of the QoS vulnerability capability flag for the default bearer. |
| QCI-QoS mapping table | If configured, the name of the QCI-QoS mapping table associated with this APN Profile. |
| Location Reporting | |
| Location Reporting UMTS | Indicates the configuration of the location-reporting command for UMTS access type. |
| Location Reporting GPRS | Indicates the configuration of the location-reporting command for GPRS access type. |
| APN Type | Indicates the configuration of the apn-type command, which identifies the APN is an IMS APN, allowing the SGSN to delay sending MBR to the S-GW until after receiving the Forward Relocation Complete Ack from the peer during SRNS procedure. By default this identification is disabled. |
| QoS upgrade from PGW for non-gbr | |
| Action | Indicates the configuration of the qos pgw-upgrade non-gbr command, which configures the action to be taken when the MME receives a QoS upgrade from P-GW for Non-GBR bearers Possible values: accept/reject/locally-cap/Not Configured. |
| Dedicated bearers | |
| GBR | Indicates the configuration of the dedicated-bearers command, which configures the MME to either accept or reject GBR dedicated bearers. Possible values: accept/reject/Not Configured. |
| Non-GBR | Indicates the configuration of the dedicated-bearers command, which configures the MME to either accept or reject Non-GBR dedicated bearers. Possible values: accept/reject/Not Configured. |
| Allow QoS Upgrade from GGSN | |
| QoS Upgrade From GGSN (UMTS) | Indicates if QoS upgrade from GGSN is enabled or disabled. |
| Capped with Subscribed QoS | Indicates if capping of QoS with Subscribed QoS (local/HLR) is enabled or disabled. |
| QoS Upgrade From GGSN (GPRS) | Indicates if QoS upgrade from GGSN is enabled or disabled. |

| Field | Description |
|---|--|
| Capped with Subscribed QoS | Indicates if capping of QoS with Subscribed QoS (local/HLR) is enabled or disabled. |
| Bearer Inactivity Timeout | |
| Exclude Default Bearer | Indicates if the application will ignore bearer inactivity handling for default/primary bearer. |
| GBR or non-GBR | Indicates that the system will check for low activity on a GBR or non-GBR bearer. |
| Timeout (Seconds) | The configured dedicated bearer timeout, in seconds. |
| Threshold (bytes) | The configured volume threshold for the dedicated bearer timeout (in bytes). |
| Direction | The traffic direction on which to execute the dedicated bearer timeout action (uplink, downlink, or bi-directional). |
| Associated Quality of Service Profile Name (UMTS) | Displays the name of the Quality of Service profile associated with the APN profile in a 3G network (access type "UMTS"). |
| Associated Quality of Service Profile Name (GPRS) | Displays the name of the Quality of Service profile associated with the APN profile in a 2G network (access type "GPRS"). |
| Validity | Displays the validity of the QoS profile associated with the APN profile as either "Valid" or "Invalid" based on whether or not such a QoS profile is created or exists in the system. |
| 802.1p priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with an internal QoS priority. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with an internal QoS priority. |
| APN Restoration Priority | Displays the locally configured priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN). If enabled, the configured restoration priority of 1 through 16 is displayed (1 is highest priority, 16 is lowest). |

| Field | Description |
|--|---|
| Service Restriction for Access Type UMTS | The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an UMTS service. |
| Service Restriction for Access Type GPRS | The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an GPRS service. |
| Service Restriction for Access Type EPS | The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an EPS service. |
| Complete APN restricted | This field indicates if complete APN restriction is enabled. |
| ESM-T3396 Timer | This field displays "Not Configured" if the ESM T3396 timeout is not configured for any cause code. |
| If the ESM T3396 timeout is configured for a cause code, the following two fields display the configured values. | |
| Value for Cause Code UNKNOWN OR MISSING APN(27) | This field displays the configured T3396 timeout value in seconds for cause code value 27. |
| Value for Cause Code INSUFFICIENT RESOURCES(26) | This field displays the configured T3396 timeout value in seconds for cause code value 26. |
| CIoT: | |
| SCEF: | |
| Wait-Time | Displays the configured SCEF wait time, in seconds. |
| S-GW Restoration | |
| Session Hold (T-PDN Release) time | Specifies the maximum time to hold or release sessions at S-GW |
| UE Usage Type | Configures UE usage type for disconnecting PDN for up service area |
| Co-located Node | Configures the collocated node name to select the collocated SPGW node IP addresses. |



CHAPTER 11

show apn-remap-table

This chapter describes the output of the **show apn-remap-table** command.

- [show apn-remap-table full name](#), on page 507

show apn-remap-table full name

This command provides detailed configuration and functional information for a specified apn-remap-table. Only those settings which are configured will be displayed in the output of this command.

Table 124: show apn-remap-table full name Command Output Descriptions

| Field | Description |
|--|---|
| Default APN | Displays the network identifier to be used when the normal APN selection process fails. This setting is configured using the apn-selection-default command. Up to four individual default APN configurations will be displayed if configured. |
| Require Subscription APN | Indicates if this APN name must be included in the subscription data for the default APN feature to function. |
| Use Default APN when no APN is requested | Indicates that the default APN should be used if no APN is requested in the subscription record. |
| Use Default APN when DNS Query fails | Indicates that the default APN should be used if the DNS query fails. |
| Fallback APN to use when Default APN not present in subscription | Indicates the dummy APN to be used when the default APN is not present in the subscription. |
| Fallback APN in First subscription record when Default APN not present | Indicates whether to use the APN from the first subscription record when the configured default APN is not available. |
| Use APN from Single Subscription record | Indicates whether to use the APN from the subscription record if it is the only record available and normal APN selection fails. |

| Field | Description |
|--|---|
| APN selection mode when APN requested not present | Indicates the default APN selection mode, either first-in-subscription or lowest-context-id. This setting is configured using the apn-selection-default command. |
| APN to use when no APN is requested | Indicates the APN that will be used when no APN is requested. This setting is configured using the blank-apn command. |
| Charging Characteristic APN Override Entry <i>n</i> | Displays a charging characteristics-based APN override group entry and associated settings. This group of settings is configured using the cc command. |
| Match Charging Characteristics Behavior | Indicates the charging characteristic behavior bit value. |
| Match Charging Characteristics Profile-Index | Indicates the index value for this charging characteristic profile. |
| Match Requested APN | Identifies the "old" APN network identifier of that is configured to be overridden/remapped. |
| APN to use for overriding | Identifies the "new" APN network identifier to which the APN will be remapped. |
| Wildcard APN for IPv4 | Identifies the configuration of the wildcard APN feature for IPv4 PDP contexts. |
| Wildcard APN for IPv6 | Identifies the configuration of the wildcard APN feature for IPv6 PDP contexts. |
| Wildcard APN for IPv4v6 | Identifies the configuration of the wildcard APN feature for dual IPv4v6 PDP contexts. |
| Wildcard APN for PPP | Identifies the configuration of the wildcard APN feature for PPP contexts. |
| APN remap Entry <i>n</i> | Displays an APN remap group entry and associated settings. |
| Match Input NI wildcard | Identifies the "old" APN network identifier that is being mapped for replacement. |
| Remap Input NI to | Identifies the new (target) network identifier to use. |
| Match Input OI wildcard | Identifies the "old" APN operator identifier that is being mapped for replacement. |
| Remap Input OI to | Identifies the new (target) operator identifier to use. |
| Replace wildcard MCC in Input OI with | Identifies the new (target) MCC value to use. This is specified using the value-for-oi-mcc keyword. |
| Replace wildcard MNC in Input OI with | Identifies the new (target) MNC value to use. This is specified using the value-for-oi-mnc keyword. |



CHAPTER 12

show asngw-service

This chapter includes the **show asngw-service** command output tables.

- [show asngw-service all](#), on page 509
- [show asngw-service session all](#), on page 512
- [show asngw-service session counters](#), on page 513
- [show asngw-service session counters verbose](#), on page 516
- [show asngw-service session full](#), on page 523
- [show asngw-service session counters function-type data-path](#), on page 525
- [show asngw-service session peer-address](#), on page 529
- [show asngw-service session summary](#), on page 530
- [show asngw-service statistics](#), on page 530
- [show asngw-service statistics function-type ms-state-change](#), on page 534
- [show asngw-service statistics function-type ms-state-change](#), on page 537
- [show asngw-service statistics verbose](#), on page 539

show asngw-service all

Table 125: show asngw-service all Command Output Descriptions

| Field | Description |
|-----------------|--|
| Service name | The ASN GW service name. |
| Context | The context in which the service is configured. |
| Bind | The bind status. |
| Max Subscribers | The maximum number of subscribers. |
| IP address | IP address of ASN GW server where this service is located. |
| UDP Port | The UDP port number. |
| Service Status | Status of this service. |

| Field | Description |
|---|---|
| Authentication | The authentication mode. Possible modes are: <ul style="list-style-type: none"> • None • User (Single EAP) • Device (Single EAP) • Device-User (Double EAP) • Device-User (Single EAP) |
| Policy msid-dhcp-chaddr-mismatch | The status of the policy to handle the calls with mismatched DHCP Client Hardware (MAC) Address (CHADDR) and MSID of the ASN-GW session. |
| Policy ms-unexpected-network-reentry | The status of the policy to handle the unexpected network re-entry of an MS. |
| Policy asngw-initiated-reauth | The status of the policy to handle the ASN GW initiated reauthorization trigger. |
| Policy non-anchor-mode | The status of the policy to handle the ASN GW to accept the session in non-anchor mode. |
| Newcall Policy | Specify that the new call policy enabled or disabled to handle new calls. Possible values are: <ul style="list-style-type: none"> • NONE • REJECT |
| Policy Overload | Specify that the session overload policy enabled or disabled to handle new calls. Possible values are: <ul style="list-style-type: none"> • DROP • REJECT |
| Mobile IP FA context | The name of the context where MIP FA service is configured. |
| Maximum number of retransmissions | The maximum number of retransmissions. |
| Retransmission timeout | The retransmission timeout duration. |
| Setup timeout | The session setup timeout duration. |
| Active-relay timeout | The timeout duration for active relay of R4 or R6 messages. |
| Handover anchor data-path termination timeout | The timeout duration in seconds to keep the data path registration with previous anchored BS after completion of handover. |

| Field | Description |
|--|---|
| Handover anchor data-path pre-registration termination timeout | The timeout duration in seconds to keep the data path pre-registration termination information with anchored BS after completion of handover. |
| Handover non-anchor data-path termination timeout | The timeout duration in seconds to keep the data path registration with non-anchored BS after completion of handover. |
| Handover non-anchor data-path pre-registration termination timeout | The timeout duration in seconds to keep the data path pre-registration termination information with non-anchored BS after completion of handover. |
| Handover max number of data-path pre-registrations | The maximum number of data paths created during pre-registration for a handover. |
| Idle-mode entry timeout | The timeout duration in seconds for a session to enter the idle mode from active mode. |
| Idle-mode exit timeout | The timeout duration in seconds for a session to reenter the active mode from idle mode. |
| Idle-mode timeout | The total timeout duration in seconds. |
| Policy transaction-id-validation | The status of the policy to validate the transaction id. |
| Policy zero-function-type | The status of the policy to allow the zero function type of call. |
| Transaction Id. Seed | The transaction identifier seed. |
| Peer ASNGW addresses | The IP addresses of trusted ASN GW peers for handover. |
| BS Monitor Config | The status of BS monitoring support. Possible values are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Interval | The configured amount of time in seconds between two ICMP ping message to an ASN BS. |
| Timeout | The number of seconds to wait for response from the ASN BS before re-sending the ICMP ping message. |
| Number of retries | The number of retries to sent ICMP ping messages to an ASN BS before the ASN BS is declared as dead/unreachable. |
| MTU size | The maximum transmission unit size configured in bytes. |
| Total BSs | The total number of BSs monitored. |
| Active BSs | The number of active BSs. |
| Alive BSs | The number of active and alive BSs. |

| Field | Description |
|--------------------------------------|---|
| ICMP Monitored BSs | The number of BSs which are monitored through ICMP ping messages. |
| Inactive BSs | The number of inactive BSs. |
| No Calls BSs | The total number of BSs which have no active calls or in idle mode. |
| Going Down BSs | The total number of BSs which are going down or terminating sessions. |
| BS | The IP address of BSs. |
| Status | The status of listed BSs. |
| Maximum Number of Secondary IP Hosts | The maximum number of secondary hosts connected behind a primary WiMAX CPE under multiple IP host support. |
| Ran Peer Map Name | The name of the RAN Peer Map this service is using to reconcile base station MAC address received in R6 protocol messages to the actual IPv4 address of the base station. |

show asngw-service session all

Table 126: show asngw-service session all Command Output Descriptions

| Field | Description |
|--------|--|
| vv | <p>Displays service and session state information. This column provides a code consisting of two characters.</p> <p>From left-to-right, the first character represents the Call Type that the subscriber is using. The possible call types are:</p> <ul style="list-style-type: none"> • A: Anchor • N: Non-Anchor <p>From left-to-right, the second character represents the DP Status. The possible data path status are:</p> <ul style="list-style-type: none"> • A: Active • I: Idle |
| CALLID | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| NAI | The subscriber's Network Access Identifier. |

| Field | Description |
|---------------------------------|--|
| Home Address | The IP address assigned to the subscriber's mobile node for the duration of the session. |
| Total Non-Anchor ASNGW Sessions | The total number of ASN GW sessions in non-anchor mode. |
| Total Anchor ASNGW Sessions | The total number of ASN GW sessions in anchor mode. |
| Total Active ASNGW Sessions | The total number of active ASN GW sessions including anchor and non-anchor mode. |
| Total Idle ASNGW Sessions | The total number of idle ASN GW sessions including anchor and non-anchor mode. |
| Total ASNGW Sessions | The total number of ASN GW sessions on chassis including all modes. |

show asngw-service session counters

Table 127: show asngw-service session counters Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Username | The subscriber's user name. |
| Callid | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| Session Type | The type of session. Possible type of sessions are: <ul style="list-style-type: none"> • Anchor • Non-Anchor |
| Initial Network Entry Events | |
| MS Pre-Attach | Displays the MS pre-attach event statistics. |
| Attempted | The total number of attempts made for an event. |
| Success | The total number of successful attempts made for an event. |
| Failures | The total number of failed attempts made for an event. |
| Authentications | Displays the authentication event statistics. |
| EAP | The total number of authentication/re-authentication attempts failed due to EAP. |
| Misc. Reason | The total number of authentication/re-authentication attempts failed due to miscellaneous reasons. |

| Field | Description |
|-------------------------------------|--|
| MS Attach | Displays the MS attach event statistics. |
| DP Registrations | Displays the data path registration event statistics. |
| Re-Authentications | Displays the re-authentication event statistics. |
| Handover Events | |
| Intra ASN-GW Handovers | Displays the intra-ASN GW (inter BS) handover event statistics. |
| Inter ASN-GW Handovers | Displays the inter-ASN GW handover event statistics. |
| DP De-Registrations | Displays the data path de-registration event statistics. |
| Idle Mode entry events | Displays the idle mode entry event statistics. |
| Idle Mode exit events | Displays the idle mode exit event statistics. |
| Paging initiation events | Displays the paging initiation event statistics. |
| Total R6/R4 Control Messages | |
| Sent | Total number of R4/R6 control messages sent. |
| Retransmissions Sent | Total number of R4/R6 control messages retransmitted. |
| Received | The total number of R4/R6 control messages received. |
| Accepted | The total number of R4/R6 control messages received and accepted. |
| Relayed | The total number of R4/R6 control messages received and relayed. |
| Denied | The total number of R4/R6 control messages received and denied. |
| Discarded | The total number of R4/R6 control messages received and discarded. |
| Badly Formed | The total number of badly formed R4/R6 control messages messages. |
| Decode Error | The total number of decode errors found in the R4/R6 control messages. |
| Unspecified Error | The total number of unspecified errors found in the R4/R6 control messages. |
| Missing Mandatory TLV | The total number of R4/R6 control messages received with missing mandatory TLVs. |
| TLV Value Invalid | The total number of R4/R6 control messages received with invalid TLV value. |

| Field | Description |
|-----------------------------------|---|
| Unknown TLV | The total number of R4/R6 control messages received with unknown TLV value. |
| Duplicate TLV Found | The total number of R4/R6 control messages received with duplicate TLV value. |
| No Session Found | The total number of R4/R6 control messages received without session information. |
| Transaction Id. Error | The total number of R4/R6 control messages received with error in transaction id. |
| Key Change Success | The total number of R4/R6 control messages received with successful Key Change request. |
| Key Change Failure | The total number of R4/R6 control messages with failed Key Change request. |
| MS Initiated Re-Auth | The total number of R4/R6 control messages received with for MS initiated re-authentication. |
| BS Initiated Re-Auth | The total number of R4/R6 control messages received with for BS initiated re-authentication. |
| Total R4/R6 Data messages: | Displays the statistics of total R4 and R6 data messages. |
| GRE Receive: | |
| Packets Received | The total number of packets received by the system through GRE tunnel. |
| Bytes Received | The total number of bytes received by the system through GRE tunnel. |
| Protocol Type Error | The total number of encapsulated packets received through GRE tunnel with protocol type errors. |
| GRE Key Absent | Total number of GRE tunneled key absent errors received through GRE tunnel. |
| GRE Checksum Error | Total number of checksum errors that occurred in GRE tunnels received by this system. |
| Invalid Packet Length | Total number of encapsulated packets received with invalid packet lengths through GRE tunnel. |
| No Session found | Total number of errors that occurred due to no session being present in received tunnels. |
| Unspecified Error | Total number of data messages received with errors which are not specified in this table. |
| GRE Send: | |

| Field | Description |
|---------------------------------|--|
| Packets Sent | The total number of packets sent by the system through GRE tunnel. |
| Bytes Sent | The total number of bytes sent by the system through GRE tunnel. |
| Send Error | The total number of errors that occurred while sending replies through GRE tunnel. |
| Unspecified Error | Total number of data messages sent with errors which are not specified in this table through GRE tunnel. |
| Total Non-Anchor ASNGW Sessions | The total number of ASN GW sessions in non-anchor mode. |
| Total Anchor ASNGW Sessions | The total number of ASN GW sessions in anchor mode. |
| Total ASNGW Sessions | The total number of ASN GW sessions including anchor and non-anchor mode. |

show asngw-service session counters verbose

Table 128: show asngw-service session counters verbose Command Output Descriptions

| Field | Description |
|--|--|
| Username | The subscriber's user name. |
| Callid | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| Session Type | The type of session. Possible type of sessions are: <ul style="list-style-type: none"> • Anchor • Non-Anchor |
| Message Groups | |
| R6 MS Pre-Attachment Request messages | Groups the statistics of the MS pre-attachment request messages on R6 interface. |
| R6 MS Pre-Attachment Response messages | Groups the statistics of the MS pre-attachment response messages on R6 interface. |
| R6 MS Pre-Attachment Ack messages | Groups the statistics of the MS pre-attachment ACK messages on R6 interface. |
| R6 Network Exit MS State Change Request messages | Groups the statistics of the MS state change request messages on network exit R6 interface. |

| Field | Description |
|---|--|
| R4 Network Exit MS State Change Request messages | Groups the statistics of the MS state change request messages on network exit R4 interface. |
| R6 Network Exit MS State Change Response messages | Groups the statistics of the MS state change response messages on network exit R6 interface. |
| R4 Network Exit MS State Change Response messages | Groups the statistics of the MS state change response messages on network exit R4 interface. |
| R6 Context Request messages | Groups the statistics of the context request messages on R6 interface. |
| R4 Context Request messages | Groups the statistics of the context request messages on R4 interface. |
| R6 Context Report messages | Groups the statistics of the context report messages on R6 interface. |
| R4 Context Report messages | Groups the statistics of the context report messages on R4 interface. |
| R6 Context Ack messages | Groups the statistics of the context ACK messages on R6 interface. |
| R4 Context Ack messages | Groups the statistics of the context ACK messages on R4 interface. |
| R6 Authentication Relay EAP Transfer messages | Groups the statistics of the EAP authentication relay transfer messages on R6 interface. |
| R4 Authentication Relay EAP Transfer messages | Groups the statistics of the EAP authentication relay transfer messages on R4 interface. |
| R6 Authentication Relay EAP Start messages | Groups the statistics of the EAP authentication relay start messages on R6 interface. |
| R4 Authentication Relay EAP Start messages | Groups the statistics of the EAP authentication relay start messages on R4 interface. |
| R6 MS Attachment Request messages | Groups the statistics of the MS attachment request messages on R6 interface. |
| R6 MS Attachment Response messages | Groups the statistics of the MS attachment response messages on R6 interface. |
| R6 MS Attachment Ack messages | Groups the statistics of the MS attachment ACK messages on R6 interface. |
| R6 Data-Path Pre-Registration Request messages | Groups the statistics of the data path pre-registration request messages on R6 interface. |
| R4 Data-Path Pre-Registration Request messages | Groups the statistics of the data path pre-registration request messages on R4 interface. |

| Field | Description |
|---|--|
| R6 Data-Path Pre-Registration Response messages | Groups the statistics of the data path pre-registration response messages on R6 interface. |
| R4 Data-Path Pre-Registration Response messages | Groups the statistics of the data path pre-registration response messages on R4 interface. |
| R6 Data-Path Pre-Registration Ack messages | Groups the statistics of the data path pre-registration ACK messages on R6 interface. |
| R4 Data-Path Pre-Registration Ack messages | Groups the statistics of the data path pre-registration ACK messages on R4 interface. |
| R6 Data-Path Registration Request messages | Groups the statistics of the data path registration request messages on R6 interface. |
| R4 Data-Path Registration Request messages | Groups the statistics of the data path registration request messages on R4 interface. |
| R6 Data-Path Registration Response messages | Groups the statistics of the data path registration response messages on R6 interface. |
| R4 Data-Path Registration Response messages | Groups the statistics of the data path registration response messages on R4 interface. |
| R6 Data-Path Registration Ack messages | Groups the statistics of the data path registration ACK messages on R6 interface. |
| R4 Data-Path Registration Ack messages | Groups the statistics of the data path registration ACK messages on R4 interface. |
| R6 Data-Path De-Registration Request messages | Groups the statistics of the data path de-registration request messages on R6 interface. |
| R4 Data-Path De-Registration Request messages | Groups the statistics of the data path de-registration request messages on R4 interface. |
| R6 Data-Path De-Registration Response messages | Groups the statistics of the data path de-registration response messages on R6 interface. |
| R4 Data-Path De-Registration Response messages | Groups the statistics of the data path de-registration response messages on R4 interface. |
| R6 Data-Path De-Registration Ack messages | Groups the statistics of the data path de-registration ACK messages on R6 interface. |
| R4 Data-Path De-Registration Ack messages | Groups the statistics of the data path de-registration ACK messages on R4 interface. |
| R6 Key Change Directive messages | Groups the statistics of the key change directive messages on R6 interface. |
| R4 Key Change Directive messages | Groups the statistics of the key change directive messages on R4 interface. |

| Field | Description |
|--------------------------------|---|
| R6 Key Change Ack messages | Groups the statistics of the key change ACK messages on R6 interface. |
| R4 Key Change Ack messages | Groups the statistics of the key change ACK messages on R4 interface. |
| R6 Key Change Confirm messages | Groups the statistics of the key change confirm messages on R6 interface. |
| R4 Key Change Confirm messages | Groups the statistics of the key change confirm messages on R4 interface. |
| R6 Cmac Key Count Update Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R6 interface. |
| R4 Cmac Key Count Update Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R4 interface. |
| R6 Cmac Key Count Ack Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R6 interface. |
| R4 Cmac Key Count Ack Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R46 interface. |
| R6 Handoff Request Msg | Groups the statistics of the hand-off request messages on R6 interface. |
| R4 Handoff Request Msg | Groups the statistics of the hand-off request messages on R4 interface. |
| R6 Handoff Response Msg | Groups the statistics of the hand-off response messages on R6 interface. |
| R4 Handoff Response Msg | Groups the statistics of the hand-off response messages on R4 interface. |
| R6 Handoff Ack Msg | Groups the statistics of the hand-off ACK messages on R6 interface. |
| R4 Handoff Ack Msg | Groups the statistics of the hand-off ACK messages on R4 interface. |
| R6 Handoff Confirm Msg | Groups the statistics of the hand-off confirm messages on R6 interface. |
| R4 Handoff Confirm Msg | Groups the statistics of the hand-off confirm messages on R4 interface. |
| R6 Handoff Complete Msg | Groups the statistics of the hand-off complete messages on R6 interface. |
| R4 Handoff Complete Msg | Groups the statistics of the hand-off complete messages on R4 interface. |

| Field | Description |
|----------------------------------|--|
| R4 IM Entry State Change Req Msg | Groups the statistics of the idle mode entry state change request messages on R4 interface. |
| R4 IM Entry State Change Rsp Msg | Groups the statistics of the idle mode entry state change response messages on R4 interface. |
| R4 IM Entry State Change Ack Msg | Groups the statistics of the idle mode entry state change ACK messages on R4 interface. |
| R4 Anchor PC Indication Msg | Groups the statistics of anchor paging controller (PC) indication messages on R4 interface. |
| R4 Anchor PC Ack Msg | Groups the statistics of anchor paging controller (PC) ACK messages on R4 interface. |
| R4 IM Exit State Change Req Msg | Groups the statistics of the idle mode exit state change request messages on R4 interface. |
| R4 IM Exit State Change Rsp Msg | Groups the statistics of the idle mode exit state change response messages on R4 interface. |
| R4 Initiate Paging Req Msg | Groups the statistics of the initiated paging request messages on R4 interface. |
| R4 Initiate Paging Rsp Msg | Groups the statistics of the initiated paging response messages on R4 interface. |
| R4 Delete MS Entry Req Msg | Groups the statistics of the request messages to delete the MS entry request on R4 interface. |
| R4 Delete MS Entry Rsp Msg | Groups the statistics of the messages sent in response of delete message for the MS entry request on R4 interface. |
| R6 Unknown messages | Groups the statistics of the unknown type of request messages on R6 interface. |
| R4 Unknown messages | Groups the statistics of the unknown type of request messages on R4 interface. |
| Message Statistics | |
| Total Sent | The total number of this type of message sent on specific interface. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Retransmissions Sent | The total number of this type of message re-transmitted on specific interface. |
| Total Received | The total number of this type of message received on specific interface. |

| Field | Description |
|-----------------------|--|
| Total Accepted | The total number of this type of message accepted on specific interface. |
| Total Relayed | The total number of this type of message relayed on specific interface. |
| Total Denied | The total number of this type of message denied on specific interface. |
| Total Discarded | The total number of this type of message discarded on specific interface. |
| Badly Formed | The total number of badly formed this type of message on specific interface. |
| Decode Error | The total number of this type of message on specific interface with decode error. |
| Unspecified Error | The total number of this type of message on specific interface with unspecified error. |
| Missing Mandatory TLV | The total number of this type of message on specific interface with missing mandatory TLVs. |
| TLV Value Invalid | The total number of this type of message on specific interface with invalid TLV value. |
| Unknown TLV | The total number of this type of message on specific interface with unknown TLVs. |
| Duplicate TLV Found | The total number of this type of message on specific interface with duplicate TLVs. |
| No session Found | The total number of this type of message on specific interface without any session information. |
| Transaction Id. Error | The total number of this type of message on specific interface with transaction id error. |
| Key Change Success | The total number of successful Key Change Confirmation messages. |
| Key Change Failure | The total number of Key Change Confirmation messages failed. |
| Out Of Order Packet | The total number of authentication relay EAP transfer/start messages on R6 interface with out-of-order packets. |
| MS Initiated Re-Auth | The total number of authentication relay EAP start messages on specific interface with MS initiated reauthorization. |
| BS Initiated Re-Auth | The total number of authentication relay EAP start messages on specific interface with BS initiated reauthorization. |

| Field | Description |
|-------------------------|---|
| ASNGW Initiated Re-Auth | Total number of the re-authentications initiated from the ASN GW. |
| Data messages | |
| GRE R6 Receive | The total number of data message received with through GRE tunnel on R6 interface. |
| GRE R4 Receive | The total number of data message received through GRE tunnel on R4 interface. |
| Packets Received | The total number of data packets received/sent through GRE tunnel on R4/R6 interface. |
| Bytes Received | The total number of data bytes received/sent through GRE tunnel on R4/R6 interface. |
| Protocol Type Error | The total number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface. |
| GRE Key Absent | The total number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface. |
| GRE Checksum Error | The total number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface. |
| Invalid Packet Length | The total number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface. |
| No Session found | The total number of data message received/sent without any session information through GRE tunnel on R4/R6 interface. |
| Unspecified Error | The total number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface. |
| GRE R6 Send | The total number of data message sent through GRE tunnel on R6 interface. |
| GRE R4 Send | The total number of data message sent through GRE tunnel on R4 interface. |
| Packets Sent | The total number of data packets sent through GRE tunnel on R4/R6 interface. |
| Send Error | The total number of data message sent with error through GRE tunnel on R4/R6 interface. |
| Bytes Sent | The total number of data bytes sent through GRE tunnel on R4/R6 interface. |

show asngw-service session full

Table 129: show asngw-service session full Command Output Descriptions

| Field | Description |
|------------------------|--|
| Username | The subscriber's user name. |
| Callid | The subscriber's call identification number. |
| Pseudoname | The subscriber's pseudo name. It provides the pseudo user name for a WIMAX session if TTLS authentication is used for the call. |
| MSID | The subscriber's Mobile Station Identification number. |
| Home Address | The IP address assigned to the subscriber's mobile node for the duration of the session. |
| ASNGW Service Address | IP address of system where ASN GW service is running. |
| Session Type | The type of session. Possible type of sessions are: <ul style="list-style-type: none"> • Anchor • Non-Anchor |
| DP Status | The status of data path. Possible data path status are: <ul style="list-style-type: none"> • Active • Idle |
| Authenticator Address | IP address of the authenticator ASN GW. |
| Anchor Address | IP address of the anchor ASN GW where subscriber is attached. |
| Data Path Status | Identifies if the call can carry data over the R6/R4 interface. Idle: the ASN GW is attached to PCLR and is not capable of sending traffic to BS over R6/R4. Active: the IP-GRE tunnels between the ASN GW and the BS are setup and ready to transfer data from the IP network side. |
| PCLR Address | IP address of PC-LR currently attached to this ASN GW. |
| CMAC Key Count | Total number of Cipher-based Message Authentication Code (CMAC) key count. |
| EAP MSK Lifetime | Total lifetime configured for EAP Master Session Key in seconds. |
| Remaining MSK Lifetime | Remaining lifetime available for EAP Master Session Key in seconds. |

| Field | Description |
|-------------------------------------|---|
| Number of Re-authentication | Total number of re-authentications happened for a WiMAX subscriber. |
| Authentication Mode | The authentication mode. Possible modes are: <ul style="list-style-type: none"> • None • User (Single EAP) • Device (Single EAP) • Device-User (Double EAP) • Device-User (Single EAP) |
| EAP-Methods | Specifies the EAP authentication method. Possible methods are: <ul style="list-style-type: none"> • EAP-Pre-shared Key (EAP-PSK) • EAP-Transport Layer Security (EAP-TLS) • EAP-Tunneled Transport Layer Security (EAP-TTLS) • EAP-Authentication and Key Agreement (EAP-AKA) |
| DHCP ChAddr of MS | Client Hardware (MAC) Address (CHADDR) of MS. |
| Service Flow Information | |
| SFID | The service flow identifier. |
| Direction | Direction of the service flow. |
| SDFID | The service data flow identifier. |
| PDFID | The packet data flow identifier. |
| Profile ID | The profile id applicable for service flow. |
| Peer (*) Address | Specifies the IP address of the trusted peer for handover. |
| Peer Type | Specifies the type of peer for handover. Possible types are: <ul style="list-style-type: none"> • BS • ASN GW |
| BSID | Specifies the ASN base station Id. |
| GRE Key | The Generic Routing Encapsulation (GRE) key. |
| Tunnel Endpoint | The IP address of GRE tunnel endpoint. |
| Total Service flows(unidirectional) | Total number of service flows in both direction. |
| Total Non-Anchor ASNGW Sessions | The total number of ASN GW sessions in non-anchor mode. |

| Field | Description |
|-----------------------------|---|
| Total Anchor ASNGW Sessions | The total number of ASN GW sessions in anchor mode. |
| Total Active ASNGW Sessions | The total number of active ASN GW sessions. |
| Total Idle ASNGW Sessions | The total number of ASN GW sessions in idle mode. |
| Total ASNGW Sessions | The total number of ASN GW sessions including anchor and non-anchor mode. |

show asngw-service session counters function-type data-path

Table 130: show asngw-service session counters function-type data-path Command Output Descriptions

| Field | Description |
|---|--|
| Username | The subscriber's user name. |
| CALLID | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| Data-Path Registration Request Messages: | |
| Total Sent | The total number of Data-Path Registration Request messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Data-Path Registration Request messages received. |
| Total Denied | The total number of Data-Path Registration Request messages denied. |
| Total Discarded | The total number of Data-Path Registration Request messages discarded. |
| Badly Formed | The total number of badly formed Data-Path Registration Request messages. |
| Decode Error | The total number of decode errors in the Data-Path Registration Request messages sent. |
| Unspecified Error | The total number of unspecified errors in the Data-Path Registration Request messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Data-Path Registration Request messages sent. |

| Field | Description |
|--|--|
| TLV Value Invalid | The total number of Data-Path Registration Request messages sent with invalid TLV value. |
| Unknown TLV | The total number of Data-Path Registration Request messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Data-Path Registration Request messages sent with duplicate TLV. |
| No Session Found | The total number of Data-Path Registration Request messages sent without session information. |
| Data-Path Registration Response Messages: | |
| Total Sent | The total number of Data-Path Registration Response messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Data-Path Registration Response messages received. |
| Total Denied | The total number of Data-Path Registration Response messages denied. |
| Total Discarded | The total number of Data-Path Registration Response messages discarded. |
| Badly Formed | The total number of badly formed Data-Path Registration Response messages. |
| Decode Error | The total number of decode errors in the Data-Path Registration Response messages sent. |
| Unspecified Error | The total number of unspecified errors in the Data-Path Registration Response messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Data-Path Registration Response messages sent. |
| TLV Value Invalid | The total number of Data-Path Registration Response messages sent with invalid TLV value. |
| Unknown TLV | The total number of Data-Path Registration Response messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Data-Path Registration Response messages sent with duplicate TLV. |
| No Session Found | The total number of Data-Path Registration Response messages sent without session information. |

| Field | Description |
|--|--|
| Data-Path Registration Ack Messages: | |
| Total Sent | The total number of Data-Path Registration Request Ack messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Data-Path Registration Request Ack messages received. |
| Total Denied | The total number of Data-Path Registration Request Ack messages denied. |
| Total Discarded | The total number of Data-Path Registration Request Ack messages discarded. |
| Badly Formed | The total number of badly formed Data-Path Registration Request Ack messages. |
| Decode Error | The total number of decode errors in the Data-Path Registration Request Ack messages sent. |
| Unspecified Error | The total number of unspecified errors in the Data-Path Registration Request Ack messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Data-Path Registration Request Ack messages sent. |
| TLV Value Invalid | The total number of Data-Path Registration Request Ack messages sent with invalid TLV value. |
| Unknown TLV | The total number of Data-Path Registration Request Ack messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Data-Path Registration Request Ack messages sent with duplicate TLV. |
| No Session Found | The total number of Data-Path Registration Request Ack messages sent without session found. |
| Data-Path De-Registration Request Messages: | |
| Total Sent | The total number of Data-Path De-Registration Request messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Data-Path De-Registration Request messages received. |

| Field | Description |
|---|--|
| Total Denied | The total number of Data-Path De-Registration Request messages denied. |
| Total Discarded | The total number of Data-Path De-Registration Request messages discarded. |
| Badly Formed | The total number of badly formed Data-Path De-Registration Request messages. |
| Decode Error | The total number of decode errors in the Data-Path De-Registration Request messages sent. |
| Unspecified Error | The total number of unspecified errors in the Data-Path De-Registration Request messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Data-Path De-Registration Request messages sent. |
| TLV Value Invalid | The total number of Data-Path De-Registration Request messages sent with invalid TLV value. |
| Unknown TLV | The total number of Data-Path De-Registration Request messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Data-Path De-Registration Request messages sent with duplicate TLV. |
| No Session Found | The total number of Data-Path De-Registration Request messages sent without session information. |
| Data-Path De-Registration Response Messages: | |
| Total Sent | The total number of Data-Path De-Registration Response messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Data-Path De-Registration Response messages received. |
| Total Denied | The total number of Data-Path De-Registration Response messages denied. |
| Total Discarded | The total number of Data-Path De-Registration Response messages discarded. |
| Badly Formed | The total number of badly formed Data-Path De-Registration Response messages. |
| Decode Error | The total number of decode errors in the Data-Path De-Registration Response messages sent. |

| Field | Description |
|-----------------------|---|
| Unspecified Error | The total number of unspecified errors in the Data-Path De-Registration Response messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Data-Path De-Registration Response messages sent. |
| TLV Value Invalid | The total number of Data-Path De-Registration Response messages sent with invalid TLV value. |
| Unknown TLV | The total number of Data-Path De-Registration Response messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Data-Path De-Registration Response messages sent with duplicate TLV. |
| No Session Found | The total number of Data-Path De-Registration Response messages sent without session information. |
| Total ASNGW Sessions | The total number of ASNGW messages. |

show asngw-service session peer-address

Table 131: show asngw-service session peer-address Command Output Descriptions

| Field | Description |
|--------------|--|
| vv | <p>Displays service and session state information. This column provides a code consisting of two characters.</p> <p>From left-to-right, the first character represents the Call Type that the subscriber is using. The possible call types are:</p> <ul style="list-style-type: none"> • A: Anchor • N: Non-Anchor <p>From left-to-right, the second character represents the DP Status. The possible data path status are:</p> <ul style="list-style-type: none"> • A: Active • I: Idle |
| CALLID | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| NAI | The subscriber's Network Access Identifier. |
| Home Address | The IP address assigned to the subscriber's mobile node for the duration of the session. |

| Field | Description |
|---------------------------------|--|
| Total Non-Anchor ASNGW Sessions | The total number of ASN GW sessions in non-anchor mode. |
| Total Anchor ASNGW Sessions | The total number of ASN GW sessions in anchor mode. |
| Total Active ASNGW Sessions | The total number of active ASN GW sessions including anchor and non-anchor mode. |
| Total Idle ASNGW Sessions | The total number of idle ASN GW sessions including anchor and non-anchor mode. |
| Total ASNGW Sessions | The total number of ASN GW sessions on chassis including all modes. |

show asngw-service session summary

Table 132: show asngw-service session summary Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| Total Non-Anchor ASNGW Sessions | The total number of ASN GW sessions in non-anchor mode. |
| Total Anchor ASNGW Sessions | The total number of ASN GW sessions in anchor mode. |
| Total Active ASNGW Sessions | The total number of active ASN GW sessions including anchor and non-anchor mode. |
| Total Idle ASNGW Sessions | The total number of idle ASN GW sessions including anchor and non-anchor mode. |
| Total ASNGW Sessions | The total number of ASN GW sessions on chassis including all modes. |

show asngw-service statistics

Table 133: show asngw-service statistics Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Initial Network Entry Events | |
| MS Pre-Attach | Displays the MS pre-attach event statistics. |
| Attempted | The number of attempts made for an event. |
| Success | The number of successful attempts made for an event. |
| Failures | The number of failed attempts made for an event. |

| Field | Description |
|-------------------------------------|--|
| Authentications | Displays the authentication event statistics. |
| EAP | The total number of authentication/re-authentication attempts failed due to EAP. |
| Misc. Reason | The total number of authentication/re-authentication attempts failed due to miscellaneous reasons. |
| MS Attach | Displays the MS attach event statistics. |
| Re-Authentications | Displays the re-authentication event statistics. |
| Handover Events | |
| Intra ASN-GW Handovers | Displays the intra-ASN GW (inter BS) handover event statistics. |
| Inter ASN-GW Handovers | Displays the inter-ASN GW handover event statistics. |
| DP Pre-registration | Displays the data path pre-registration event statistics. |
| DP Registration | Displays the data path registration event statistics. |
| DP De-Registration | Displays the data path de-registration event statistics. |
| Path Modifications | Displays the data path modification statistics. |
| Idle Mode entry events | Displays the idle mode entry event statistics. |
| Idle Mode exit events | Displays the idle mode exit event statistics. |
| Paging initiation events | Displays the paging initiation event statistics. |
| Total Disconnects | Displays the reason statistics for the disconnection of session. |
| MSK Lifetime Expiry | The total number of disconnects due to Master Session Key lifetime expiry. |
| Auth Failures | The total number of disconnects due to authentication failure. |
| Admin Drops | The total number of disconnects due to administrator intervention. |
| De-registrations | The total number of disconnects due to de-registration request initiation. |
| Other Reasons | The total number of disconnects due to unspecified reasons. |
| Total R6/R4 Control Messages | Displays the statistics of total R4 and R6 control messages. |
| Sent | Total number of R4/R6 control messages sent. |
| Retransmissions Sent | Total number of R4/R6 control messages retransmitted. |
| Send Failures | Total number of R4/R6 control messages sent and failed. |
| Received | Total number of R4/R6 control messages received. |

| Field | Description |
|-----------------------|--|
| Accepted | Total number of R4/R6 control messages received and accepted. |
| Relayed | Total number of R4/R6 control messages received and relayed. |
| Denied | Total number of R4/R6 control messages received and denied. |
| Discarded | Total number of R4/R6 control messages received and discarded. |
| Badly Formed | Total number of badly formed R4/R6 control messages. |
| Decode Error | Total number of decode errors found in the R4/R6 control messages. |
| Unspecified Error | Total number of unspecified errors found in the R4/R6 control messages. |
| Missing Mandatory TLV | Total number of R4/R6 control messages received with missing mandatory TLVs. |
| TLV Value Invalid | Total number of R4/R6 control messages received with invalid TLV value. |
| Unknown TLV | Total number of R4/R6 control messages received with unknown TLV value. |
| Duplicate TLV Found | Total number of R4/R6 control messages received with duplicate TLV value. |
| No Session Found | Total number of R4/R6 control messages received without session information. |
| No Resource Drops | Total number of R4/R6 control messages received without resource drops. |
| Admin Prohibited | Total number of R4/R6 control messages received with admin prohibited. |
| Transaction Id. Error | Total number of R4/R6 control messages received with error in transaction id. |
| Key Change Success | Total number of R4/R6 control messages received with successful Key Change request. |
| Key Change Failures | Total number of R4/R6 control messages with failed Key Change request. |
| MS Initiated Re-Auth | Total number of R4/R6 control messages received with for MS initiated re-authentication. |
| BS Initiated Re-Auth | Total number of R4/R6 control messages received with for BS initiated re-authentication. |

| Field | Description |
|-----------------------------------|--|
| ASNGW Initiated Re-Auth | Total number of the re-authentications initiated from the ASN GW. |
| Total R4/R6 Data messages: | Displays the statistics of total R4 and R6 data messages. |
| GRE Receive: | |
| Total Packets Received | Total number of packets received by the system through GRE tunnel. |
| Total Bytes Received | Total number of bytes received by the system through GRE tunnel. |
| Protocol Type Error | Total number of encapsulated packets received through GRE tunnel with protocol type errors. |
| GRE Key Absent | Total number of GRE tunneled key absent errors received through GRE tunnel. |
| GRE Checksum Error | Total number of checksum errors that occurred in GRE tunnels received by this system. |
| Invalid Packet Length | Total number of encapsulated packets received with invalid packet lengths through GRE tunnel. |
| No Session found | Total number of errors that occurred due to no session being present in received tunnels. |
| Unspecified Error | Total number of data messages received with errors which are not specified in this table. |
| GRE Send: | |
| Total Packets Sent | Total number of packets sent by the system through GRE tunnel. |
| Total Bytes Sent | Total number of bytes sent by the system through GRE tunnel. |
| Send Error | Total number of errors that occurred while sending replies through GRE tunnel. |
| Unspecified Error | Total number of data messages sent with errors which are not specified in this table through GRE tunnel. |
| Total Sessions Connected | Historical count of the total number of ASNGW sessions setup on a per-service and a per-chassis basis. |

show asngw-service statistics function-type ms-state-change

Table 134: show asngw-service statistics function-type ms-state-change Command Output Descriptions

| Field | Description |
|--|--|
| Network Entry MS State Change Request Messages: | |
| Total Sent | The total number of Network Entry MS State Change Request messages sent. |
| Retransmissions Sent | The number of Network Entry MS State Change Request messages retransmitted. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Network Entry MS State Change Request messages received. |
| Total Accepted | The total number of Network Entry MS State Change Request messages accepted. |
| Total Relayed | The total number of Network Entry MS State Change Request messages relayed. |
| Total Denied | The total number of Network Entry MS State Change Request messages denied. |
| Total Discarded | The total number of Network Entry MS State Change Request messages discarded. |
| Badly Formed | The total number of badly formed Network Entry MS State Change Request messages. |
| Decode Error | The total number of decode errors in the Network Entry MS State Change Request messages sent. |
| Unspecified Error | The total number of unspecified errors in the Network Entry MS State Change Request messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Network Entry MS State Change Request messages sent. |
| TLV Value Invalid | The total number of Network Entry MS State Change Request messages sent with invalid TLV value. |
| Unknown TLV | The total number of Network Entry MS State Change Request messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Network Entry MS State Change Request messages sent with duplicate TLV. |

| Field | Description |
|--|--|
| No Session Found | The total number of Network Entry MS State Change Request messages sent without session information. |
| No Resource Drops | Total number of R4/R6 control messages received without resource drops. |
| Admin Prohibited | Total number of R4/R6 control messages received with admin prohibited |
| Transaction Id. Error | Total number of R4/R6 control messages received with error in transaction id. |
| Congestion/Overloaded | Total number of R4/R6 control messages received with a congestion/overload error. |
| Messages: | |
| Sent | The total number of messages sent. |
| Total Received | The total number of messages received. |
| Total Denied | The total number of messages denied. |
| Total Discarded | The total number of messages discarded. |
| Badly Formed | The total number of badly formed messages. |
| Decode Error | The total number of decode errors in the messages sent. |
| Unspecified Error | The total number of unspecified errors in the messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the messages sent. |
| TLV Value Invalid | The total number of messages sent with invalid TLV value. |
| Unknown TLV | The total number of messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of messages sent with duplicate TLV. |
| No Session Found | The total number of messages sent without session information. |
| Network Entry MS State Change Directive Messages: | |
| Total Sent | The total number of Network Entry MS State Change Directive messages sent. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of Network Entry MS State Change Directive messages received. |

| Field | Description |
|--|--|
| Total Denied | The total number of Network Entry MS State Change Directive messages denied. |
| Total Discarded | The total number of Network Entry MS State Change Directive messages discarded. |
| Badly Formed | The total number of badly formed Network Entry MS State Change Directive messages. |
| Decode Error | The total number of decode errors in the Network Entry MS State Change Directive messages sent. |
| Unspecified Error | The total number of unspecified errors in the Network Entry MS State Change Directive messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Network Entry MS State Change Directive messages sent. |
| TLV Value Invalid | The total number of Network Entry MS State Change Directive messages sent with invalid TLV value. |
| Unknown TLV | The total number of Network Entry MS State Change Directive messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Network Entry MS State Change Directive messages sent with duplicate TLV. |
| No Session Found | The total number of Network Entry MS State Change Directive Request messages sent without session information. |
| Network Entry MS State Change Ack Messages: | |
| Total Sent | The total number of Network Entry MS State Change Ack messages sent. |
| Total Received | The total number of Network Entry MS State Change Ack messages received. |
| Total Denied | The total number of Network Entry MS State Change Ack messages denied. |
| Total Discarded | The total number of Network Entry MS State Change Ack messages discarded. |
| Badly Formed | The total number of badly formed Network Entry MS State Change Ack messages. |
| Decode Error | The total number of decode errors in the Network Entry MS State Change Ack messages sent. |
| Unspecified Error | The total number of unspecified errors in the Network Entry MS State Change Ack messages sent. |

| Field | Description |
|-----------------------|--|
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the Network Entry MS State Change Ack messages sent. |
| TLV Value Invalid | The total number of Network Entry MS State Change Ack messages sent with invalid TLV value. |
| Unknown TLV | The total number of Network Entry MS State Change Ack messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of Network Entry MS State Change Ack messages sent with duplicate TLV. |
| No Session Found | The total number of Network Entry MS State Change Ack messages sent without session information. |

show asngw-service statistics function-type ms-state-change

Table 135: show asngw-service statistics function-type ms-state-change Command Output Descriptions 1

| Field | Description |
|--|--|
| R6 MS Pre-Attachment Request messages | |
| Total Sent | The total number of R6 MS Pre-Attachment Request messages sent. |
| Retransmissions Sent | The number of R6 MS Pre-Attachment Request messages retransmitted. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of R6 MS Pre-Attachment Request messages received. |
| Total Accepted | The total number of R6 MS Pre-Attachment Request messages accepted. |
| Total Relayed | The total number of R6 MS Pre-Attachment Request messages relayed. |
| Total Denied | The total number of R6 MS Pre-Attachment Request messages denied. |
| Total Discarded | The total number of R6 MS Pre-Attachment Request messages discarded. |
| Badly Formed | The total number of badly formed R6 MS Pre-Attachment Request messages. |

| Field | Description |
|-----------------------|--|
| Decode Error | The total number of decode errors in the R6 MS Pre-Attachment Request messages sent. |
| Unspecified Error | The total number of unspecified errors in the R6 MS Pre-Attachment Request messages sent. |
| Missing Mandatory TLV | The total number of missing mandatory TLVs in the R6 MS Pre-Attachment Request messages sent. |
| TLV Value Invalid | The total number of R6 MS Pre-Attachment Request messages sent with invalid TLV value. |
| Unknown TLV | The total number of R6 MS Pre-Attachment Request messages sent with unknown TLV. |
| Duplicate TLV Found | The total number of R6 MS Pre-Attachment Request messages sent with duplicate TLV. |
| No Session Found | The total number of R6 MS Pre-Attachment Request messages sent without session information. |
| No Resource Drops | Total number of R4/R6 control messages received without resource drops. |
| Admin Prohibited | Total number of R4/R6 control messages received with admin prohibited |
| Transaction Id. Error | Total number of R4/R6 control messages received with error in transaction id. |
| Congestion/Overloaded | Total number of R4/R6 control messages received congestion/overload error. |
| | <ul style="list-style-type: none"> • R6 MS Pre-attachment Request Messages • R6 MS Pre-attachment Response Messages • R6 MS Pre-attachment Ack Messages • R6 MS Attachment Request Messages • R6 MS Attachment Response Messages • R6 MS Attachment Ack Messages • R6 Key Change Directive Messages • R4 Key Change Directive Messages • R6 Key Change Ack Messages • R4 Key Change Ack Messages • R6 Network Exit MS State Change Request Messages • R4 Network Exit MS State Change Request Messages • R6 Network Exit MS State Change Response Messages • R4 Network Exit MS State Change Response Messages |
| Total Sent | The total number of messages sent. |
| Retransmissions Sent | The number of messages retransmitted. |

| Field | Description |
|-----------------------|--|
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Total Received | The total number of messages received. |
| Total Accepted | The total number of messages accepted. |
| Total Relayed | The total number of messages relayed. |
| Total Denied | The total number of messages denied. |
| Total Discarded | The total number of messages discarded. |
| Badly Formed | The number of badly formed messages. |
| Decode Error | The number of decode errors in the messages sent. |
| Unspecified Error | The number of unspecified errors in the messages sent. |
| Missing Mandatory TLV | The number of missing mandatory TLVs in the messages sent. |
| TLV Value Invalid | The number of messages sent with invalid TLV value. |
| Unknown TLV | The number of messages sent with unknown TLV. |
| Duplicate TLV Found | The number of messages sent with duplicate TLV. |
| No Session Found | The number of messages sent without session information. |
| No Resource Drops | The number of R4/R6 control messages received without resource drops. |
| Admin Prohibited | The number of R4/R6 control messages received with admin prohibited |
| Transaction Id. Error | The number of R4/R6 control messages received with error in transaction id. |

show asngw-service statistics verbose

Table 136: show asngw-service statistics verbose Command Output Descriptions

| Field | Description |
|---------------------------------------|--|
| Message Groups | |
| R6 MS Pre-Attachment Request messages | Groups the statistics of the MS pre-attachment request messages on R6 interface. |

| Field | Description |
|---|--|
| R6 MS Pre-Attachment Response messages | Groups the statistics of the MS pre-attachment response messages on R6 interface. |
| R6 MS Pre-Attachment Ack messages | Groups the statistics of the MS pre-attachment ACK messages on R6 interface. |
| R6 Network Exit MS State Change Request messages | Groups the statistics of the MS state change request messages on network exit R6 interface. |
| R4 Network Exit MS State Change Request messages | Groups the statistics of the MS state change request messages on network exit R4 interface. |
| R6 Network Exit MS State Change Response messages | Groups the statistics of the MS state change response messages on network exit R6 interface. |
| R4 Network Exit MS State Change Response messages | Groups the statistics of the MS state change response messages on network exit R4 interface. |
| R6 Context Request messages | Groups the statistics of the context request messages on R6 interface. |
| R4 Context Request messages | Groups the statistics of the context request messages on R4 interface. |
| R6 Context Report messages | Groups the statistics of the context report messages on R6 interface. |
| R4 Context Report messages | Groups the statistics of the context report messages on R4 interface. |
| R6 Context Ack messages | Groups the statistics of the context ACK messages on R6 interface. |
| R4 Context Ack messages | Groups the statistics of the context ACK messages on R4 interface. |
| R6 Authentication Relay EAP Transfer messages | Groups the statistics of the EAP authentication relay transfer messages on R6 interface. |
| R4 Authentication Relay EAP Transfer messages | Groups the statistics of the EAP authentication relay transfer messages on R4 interface. |
| R6 Authentication Relay EAP Start messages | Groups the statistics of the EAP authentication relay start messages on R6 interface. |
| R4 Authentication Relay EAP Start messages | Groups the statistics of the EAP authentication relay start messages on R4 interface. |
| R6 MS Attachment Request messages | Groups the statistics of the MS attachment request messages on R6 interface. |
| R6 MS Attachment Response messages | Groups the statistics of the MS attachment response messages on R6 interface. |

| Field | Description |
|---|--|
| R6 MS Attachment Ack messages | Groups the statistics of the MS attachment ACK messages on R6 interface. |
| R6 Data-Path Pre-Registration Request messages | Groups the statistics of the data path pre-registration request messages on R6 interface. |
| R4 Data-Path Pre-Registration Request messages | Groups the statistics of the data path pre-registration request messages on R4 interface. |
| R6 Data-Path Pre-Registration Response messages | Groups the statistics of the data path pre-registration response messages on R6 interface. |
| R4 Data-Path Pre-Registration Response messages | Groups the statistics of the data path pre-registration response messages on R4 interface. |
| R6 Data-Path Pre-Registration Ack messages | Groups the statistics of the data path pre-registration ACK messages on R6 interface. |
| R4 Data-Path Pre-Registration Ack messages | Groups the statistics of the data path pre-registration ACK messages on R4 interface. |
| R6 Data-Path Registration Request messages | Groups the statistics of the data path registration request messages on R6 interface. |
| R4 Data-Path Registration Request messages | Groups the statistics of the data path registration request messages on R4 interface. |
| R6 Data-Path Registration Response messages | Groups the statistics of the data path registration response messages on R6 interface. |
| R4 Data-Path Registration Response messages | Groups the statistics of the data path registration response messages on R4 interface. |
| R6 Data-Path Registration Ack messages | Groups the statistics of the data path registration ACK messages on R6 interface. |
| R4 Data-Path Registration Ack messages | Groups the statistics of the data path registration ACK messages on R4 interface. |
| R6 Data-Path De-Registration Request messages | Groups the statistics of the data path de-registration request messages on R6 interface. |
| R4 Data-Path De-Registration Request messages | Groups the statistics of the data path de-registration request messages on R4 interface. |
| R6 Data-Path De-Registration Response messages | Groups the statistics of the data path de-registration response messages on R6 interface. |
| R4 Data-Path De-Registration Response messages | Groups the statistics of the data path de-registration response messages on R4 interface. |
| R6 Data-Path De-Registration Ack messages | Groups the statistics of the data path de-registration ACK messages on R6 interface. |

| Field | Description |
|---|---|
| R4 Data-Path De-Registration Ack messages | Groups the statistics of the data path de-registration ACK messages on R4 interface. |
| R6 Key Change Directive messages | Groups the statistics of the key change directive messages on R6 interface. |
| R4 Key Change Directive messages | Groups the statistics of the key change directive messages on R4 interface. |
| R6 Key Change Ack messages | Groups the statistics of the key change ACK messages on R6 interface. |
| R4 Key Change Ack messages | Groups the statistics of the key change ACK messages on R4 interface. |
| R6 Key Change Confirm messages | Groups the statistics of the key change confirm messages on R6 interface. |
| R4 Key Change Confirm messages | Groups the statistics of the key change confirm messages on R4 interface. |
| R6 Cmac Key Count Update Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R6 interface. |
| R4 Cmac Key Count Update Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R4 interface. |
| R6 Cmac Key Count Ack Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R6 interface. |
| R4 Cmac Key Count Ack Msg | Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R46 interface. |
| R6 Handoff Request Msg | Groups the statistics of the hand-off request messages on R6 interface. |
| R4 Handoff Request Msg | Groups the statistics of the hand-off request messages on R4 interface. |
| R6 Handoff Response Msg | Groups the statistics of the hand-off response messages on R6 interface. |
| R4 Handoff Response Msg | Groups the statistics of the hand-off response messages on R4 interface. |
| R6 Handoff Ack Msg | Groups the statistics of the hand-off ACK messages on R6 interface. |
| R4 Handoff Ack Msg | Groups the statistics of the hand-off ACK messages on R4 interface. |
| R6 Handoff Confirm Msg | Groups the statistics of the hand-off confirm messages on R6 interface. |

| Field | Description |
|----------------------------------|--|
| R4 Handoff Confirm Msg | Groups the statistics of the hand-off confirm messages on R4 interface. |
| R6 Handoff Complete Msg | Groups the statistics of the hand-off complete messages on R6 interface. |
| R4 Handoff Complete Msg | Groups the statistics of the hand-off complete messages on R4 interface. |
| R4 IM Entry State Change Req Msg | Groups the statistics of the idle mode entry state change request messages on R4 interface. |
| R4 IM Entry State Change Rsp Msg | Groups the statistics of the idle mode entry state change response messages on R4 interface. |
| R4 IM Entry State Change Ack Msg | Groups the statistics of the idle mode entry state change ACK messages on R4 interface. |
| R4 Anchor PC Indication Msg | Groups the statistics of anchor paging controller (PC) indication messages on R4 interface. |
| R4 Anchor PC Ack Msg | Groups the statistics of anchor paging controller (PC) ACK messages on R4 interface. |
| R4 IM Exit State Change Req Msg | Groups the statistics of the idle mode exit state change request messages on R4 interface. |
| R4 IM Exit State Change Rsp Msg | Groups the statistics of the idle mode exit state change response messages on R4 interface. |
| R4 Initiate Paging Req Msg | Groups the statistics of the initiated paging request messages on R4 interface. |
| R4 Initiate Paging Rsp Msg | Groups the statistics of the initiated paging response messages on R4 interface. |
| R4 Delete MS Entry Req Msg | Groups the statistics of the request messages to delete the MS entry request on R4 interface. |
| R4 Delete MS Entry Rsp Msg | Groups the statistics of the messages sent in response of delete message for the MS entry request on R4 interface. |
| R6 Unknown messages | Groups the statistics of the unknown type of request messages on R6 interface. |
| R4 Unknown messages | Groups the statistics of the unknown type of request messages on R4 interface. |
| Message Statistics | |
| Total Sent | The total number of this type of message sent on specific interface. |

| Field | Description |
|-----------------------|--|
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Retransmissions Sent | The number of this type of message re-transmitted on specific interface. |
| Total Received | The total number of this type of message received on specific interface. |
| Total Accepted | The total number of this type of message accepted on specific interface. |
| Total Relayed | The total number of this type of message relayed on specific interface. |
| Total Denied | The total number of this type of message denied on specific interface. |
| Total Discarded | The total number of this type of message discarded on specific interface. |
| Badly Formed | The number of badly formed this type of message on specific interface. |
| Decode Error | The number of this type of message on specific interface with decode error. |
| Unspecified Error | The number of this type of message on specific interface with unspecified error. |
| Missing Mandatory TLV | The number of this type of message on specific interface with missing mandatory TLVs. |
| TLV Value Invalid | The number of this type of message unspecific interface with invalid TLV value. |
| Unknown TLV | The number of this type of message on specific interface with unknown TLVs. |
| Duplicate TLV Found | The number of this type of message on specific interface with duplicate TLVs. |
| No session Found | The number of this type of message on specific interface without any session information. |
| No Resource Drops | The number of this type of message received without resource drops. |
| Admin Prohibited | The number of this type of message received with admin prohibited |

| Field | Description |
|-----------------------|---|
| Transaction Id. Error | The number of this type of message on specific interface. with transaction id error. |
| Data messages | |
| GRE R6 Receive | The number of data message received with through GRE tunnel on R6 interface. |
| GRE R4 Receive | The number of data message received through GRE tunnel on R4 interface. |
| Packets Received | The number of data packets received/sent through GRE tunnel on R4/R6 interface. |
| Bytes Received | The number of data bytes received/sent through GRE tunnel on R4/R6 interface. |
| Protocol Type Error | The number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface. |
| GRE Key Absent | The number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface. |
| GRE Checksum Error | The number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface. |
| Invalid Packet Length | The number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface. |
| No Session found | The number of data message received/sent without any session information through GRE tunnel on R4/R6 interface. |
| Unspecified Error | The number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface. |
| GRE R6 Send | The number of data message sent through GRE tunnel on R6 interface. |
| GRE R4 Send | The number of data message sent through GRE tunnel on R4 interface. |
| Packets Sent | The number of data packets sent through GRE tunnel on R4/R6 interface. |
| Send Error | The number of data message sent with error through GRE tunnel on R4/R6 interface. |
| Bytes Sent | The number of data bytes sent through GRE tunnel on R4/R6 interface. |
| Unspecified Error | The number of data bytes sent with unspecified error on R4/R6 interface. |

| Field | Description |
|--------------------------|--|
| Total Sessions Connected | The total number of sessions connected on R4/R6 interface. |



CHAPTER 13

show asnpc-service

This chapter includes the **show asnpc-service** command output tables.

- [show asnpc-service all](#), on page 547
- [show asnpc-service session all](#), on page 548
- [show asnpc-service session full](#), on page 549
- [show asnpc-service session counters verbose](#), on page 551
- [show asnpc-service statistics verbose](#), on page 554

show asnpc-service all

Table 137: show asnpc-service all Command Output Descriptions

| Field | Description |
|---|--|
| Service name | The ASN GW service name. |
| Context | The context in which the service is configured. |
| Anchor PC ID | The anchor paging controller identifier. |
| Bind | The bind status. |
| Max Subscribers | The maximum number of subscribers. |
| IP address | IP address of ASN GW server where this service is located. |
| UDP Port | The UDP port number. |
| Service Status | Status of this service. |
| Maximum number of retransmissions | The maximum number of retransmissions. |
| Maximum number of paging-announce retransmissions | The maximum number of paging-announce retransmissions. |
| Retransmission timeout | The retransmission timeout duration. |
| Setup timeout | The session setup timeout duration. |

| Field | Description |
|--|--|
| Active-relay timeout | Indicates the timeout duration for active relay of R4 or R6 messages. |
| Paging-announce timeout | Indicates the paging announce timeout duration in seconds. |
| Paging-announce retransmission timeout | Indicates the paging announce retransmission timeout duration in seconds. |
| Policy transaction-id-validation | Possible values are: <ul style="list-style-type: none"> • ALLOW: Enforce tid validation procedure as per NWG specification, section 3.1. • DISALLOW: Do not enforce tid validation procedure as per NWG specification, section 3.1. |
| Policy zero-function-type | Possible values are: <ul style="list-style-type: none"> • ALLOW: If configured, function type is not considered for transaction id generation/validation. • DISALLOW: If configured, function type is considered for transaction id generation/validation. |
| Transaction Id. Seed | If configured, initial value of tid is set to this configured value, otherwise, initial value of tid is set to a random number. |
| Peer ASNGW address | The list of ASN GW IP addresses with which the PCLR is permitted to interact. |
| Number of Paging Groups configured | The total number of paging groups configured for this service. |
| Paging Group | The paging group ID associated with this service. |
| Paging Offset | The offsets configured for the Paging Group. |
| Number of MSIDs | The current total number of MNs assigned/using the offset. |

show asnpc-service session all

Table 138: show asnpc-service session all Command Output Descriptions

| Field | Description |
|---------------|--|
| CALLID | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| BS/PA Address | IP address of the base-station or paging agent. |

| Field | Description |
|----------------------|---|
| Session Type | Indicates the type of ASN PC session. Possible type of sessions are: <ul style="list-style-type: none"> • Anchor • Non-anchor |
| Total ASNPC Sessions | The total number of ASN PC sessions on chassis including all modes. |

show asnpc-service session full

Table 139: show asnpc-service session full Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Username | The subscriber's user name. |
| Callid | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| ASNPC Service Address | IP address of system where ASN PC service is running. |
| BS/PA Address | IP address of the base-station or paging agent. |
| BS ID | The identifier of base station. Generally it is MAC address of the BS. |
| Authenticator Address | IP address of the authenticator ASN GW. |
| DPF/ASNGW Address | IP address of the system where data path function/ASN GW service is running. |
| Idle-mode timeout | Indicates the total configured timeout duration in seconds for an MS to enter the idle mode from active mode. |
| Remaining Idle Mode Timeout | Indicates the remaining timeout duration in seconds for an MS to enter the idle mode from active mode. |
| Paging Information | |
| Paging Cycle | Indicates the number of paging cycles happened in this ASN PC service session. |
| Paging Offset | Indicates the paging offset for paging announce. |
| Paging Group ID | Indicates the paging group identifier which contains the group of paging agents bounded with this paging controller session. |
| Paging Interval | Interval time in seconds between two paging announces. |

| Field | Description |
|------------------------------------|---|
| MS Information | |
| Idle Mode Authorization Indication | Indicates the idle mode authorization status. |
| SA Descriptor Information | Indicates the Security Association description information. SA descriptor is a compound attribute whose sub-attributes describe the properties of a Security Association (SA). These properties include the SA ID, the SA type, the SA service type, and the cryptographic suite employed within the SA. |
| SA ID | Indicates the identifier for the security association. |
| SA Type | Indicates the types of security association. Possible values are: |
| Cryptographic Suite | Indicates the cryptographic suite employed within the security association. Possible values are: <ul style="list-style-type: none"> • 0: Primary SA • 1: Static SA • 3: Dynamic SA • 4: Group SA • 5: MBS SA |
| SA Service Type | Indicates the service types of the corresponding SA type. Possible values are: <ul style="list-style-type: none"> • 0: Unicast service • 1: Group multicast service • 2: MBS service Note that this shall be defined only when SA type is Static SA or Dynamic SA. |
| SA Index | Indicates the index of security association. |
| Older/Newer TEK Parameters | Indicates the older or newer Traffic Encryption Key (TEK) parameters involved. |
| TEK TLV (in hex) | Indicates the TEK total length value in hexadecimal. |
| TEK Sequence Number | Indicates the TEK sequence number. |
| TEK Lifetime | Indicates the TEK lifetime in seconds. |
| PN Counter | Indicates the packet number counter in downlink direction that are used for encryption and decryption by the Base Station. |

| Field | Description |
|----------------------|--|
| RxPN Counter | Indicates the packet number counter in uplink direction that are used for encryption and decryption by the Base Station. |
| Total ASNPC Sessions | The total number of ASN PC sessions on chassis including all modes. |

show asnpc-service session counters verbose

Table 140: show asnpc-service session counters verbose Command Output Descriptions

| Field | Description |
|---|---|
| Username | The subscriber's user name. |
| Callid | The subscriber's call identification number. |
| MSID | The subscriber's Mobile Station Identification number. |
| Message Groups | |
| R6 Idle Mode Entry MS State Change Request Msg | Groups the statistics of the Idle Mode Entry MS State Change Request messages on R6 interface. |
| R6 Idle Mode Entry MS State Change Response Msg | Groups the statistics of the Idle Mode Entry MS State Change Response messages on R6 interface. |
| R6 Idle Mode Entry MS State Change Ack Msg | Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R6 interface. |
| R6 Idle Mode Exit MS State Change Request Msg | Groups the statistics of the Idle Mode Exit MS State Change Request messages on R6 interface. |
| R6 Idle Mode Exit MS State Change Response Msg | Groups the statistics of the Idle Mode Exit MS State Change Response messages on R6 interface. |
| R6 Location Update Request Msg | Groups the statistics of the Location Update Request messages on R6 interface. |
| R6 Location Update Response Msg | Groups the statistics of the Location Update Response messages on R6 interface. |
| R6 Location Update Confirm Msg | Groups the statistics of the Location Update Confirm messages on R6 interface. |
| R6 Paging Announce Msg | Groups the statistics of the Paging Announce messages on R6 interface. |
| R4 Idle Mode Entry MS State Change Request Msg | Groups the statistics of the Idle Mode Entry MS State Change Request messages on R4 interface. |

| Field | Description |
|---|--|
| R4 Idle Mode Entry MS State Change Response Msg | Groups the statistics of the Idle Mode Entry MS State Change Response messages on R4 interface. |
| R4 Idle Mode Entry MS State Change Ack Msg | Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R4 interface. |
| R4 Idle Mode Exit MS State Change Request Msg | Groups the statistics of the Idle Mode Exit MS State Change Request messages on R4 interface. |
| R4 Idle Mode Exit MS State Change Response Msg | Groups the statistics of the Idle Mode Exit MS State Change Response messages on R4 interface. |
| R4 Network Exit MS State Change Request Msg | Groups the statistics of the Network Exit MS State Change Request messages on R4 interface. |
| R4 Network Exit MS State Change Response Msg | Groups the statistics of the Network Exit MS State Change Response messages on R4 interface. |
| R4 Delete MS Entry Request Msg | Groups the statistics of the Delete MS Entry Request messages on R4 interface. |
| R4 Delete MS Entry Response Msg | Groups the statistics of the Delete MS Entry Response messages on R4 interface. |
| R4 Initiate Paging Request Msg | Groups the statistics of the Initiate Paging Request messages on R4 interface. |
| R4 Initiate Paging Response Msg | Groups the statistics of the Initiate Paging Response messages on R4 interface. |
| R4 Anchor PC Ind Msg | Groups the statistics of the Anchor Paging Controller Indicator messages on R4 interface. |
| R4 Anchor PC Ack Msg | Groups the statistics of the Anchor Paging Controller Ack messages on R4 interface. |
| R4 Context Request Msg | Groups the statistics of the Context Request messages on R4 interface. |
| R4 Context Report Msg | Groups the statistics of the Context Report messages on R4 interface. |
| R6/R4 Unknown Messages | Groups the statistics of the Unknown type of messages on R6 and/or R4 interface. |
| Message Statistics | |
| Total Sent | The total number of this type of message sent on specific interface. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |

| Field | Description |
|-----------------------|--|
| Retransmissions Sent | The total number of this type of message re-transmitted on specific interface. |
| Total Received | The total number of this type of message received on specific interface. |
| Total Accepted | The total number of this type of message accepted on specific interface. |
| Total Relayed | The total number of this type of message relayed on specific interface. |
| Total Denied | The total number of this type of message denied on specific interface. |
| Total Discarded | The total number of this type of message discarded on specific interface. |
| Badly Formed | The total number of badly formed this type of message on specific interface. |
| Decode Error | The total number of this type of message on specific interface with decode error. |
| Unspecified Error | The total number of this type of message on specific interface with unspecified error. |
| Paging Config Error | The total number of this type of errors messages on specified interface occurred. This error occurs when paging node id (BS id) is not configured in configured paging groups. |
| Missing Mandatory TLV | The total number of this type of message on specific interface with missing mandatory TLVs. |
| TLV Value Invalid | The total number of this type of message on specific interface with invalid TLV value. |
| Unknown TLV | The total number of this type of message on specific interface with unknown TLVs. |
| Duplicate TLV Found | The total number of this type of message on specific interface with duplicate TLVs. |
| No session Found | The total number of this type of message on specific interface without any session information. |
| Transaction Id. Error | The total number of this type of message on specific interface with transaction id error. |
| Data messages | |
| GRE R6 Receive | The total number of data message received with through GRE tunnel on R6 interface. |

| Field | Description |
|-----------------------|---|
| GRE R4 Receive | The total number of data message received through GRE tunnel on R4 interface. |
| Packets Received | The total number of data packets received/sent through GRE tunnel on R4/R6 interface. |
| Bytes Received | The total number of data bytes received/sent through GRE tunnel on R4/R6 interface. |
| Protocol Type Error | The total number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface. |
| GRE Key Absent | The total number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface. |
| GRE Checksum Error | The total number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface. |
| Invalid Packet Length | The total number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface. |
| No Session found | The total number of data message received/sent without any session information through GRE tunnel on R4/R6 interface. |
| Unspecified Error | The total number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface. |
| GRE R6 Send | The total number of data message sent through GRE tunnel on R6 interface. |
| GRE R4 Send | The total number of data message sent through GRE tunnel on R4 interface. |
| Packets Sent | The total number of data packets sent through GRE tunnel on R4/R6 interface. |
| Send Error | The total number of data message sent with error through GRE tunnel on R4/R6 interface. |
| Bytes Sent | The total number of data bytes sent through GRE tunnel on R4/R6 interface. |

show asnpc-service statistics verbose

Table 141: show asnpc-service statistics verbose Command Output Descriptions

| Field | Description |
|----------------|-------------|
| Message Groups | |

| Field | Description |
|--|--|
| R6 Idle Mode Entry MS State Change Request Msg | Groups the statistics of the Idle Mode Entry MS State Change Request messages on R6 interface. |
| Message Statistics | |
| Total Sent | The total number of this type of message sent on specific interface. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Retransmissions Sent | The total number of this type of message re-transmitted on specific interface. |
| Total Received | The total number of this type of message received on specific interface. |
| Total Accepted | The total number of this type of message accepted on specific interface. |
| Total Relayed | The total number of this type of message relayed on specific interface. |
| Total Denied | The total number of this type of message denied on specific interface. |
| Total Discarded | The total number of this type of message discarded on specific interface. |
| Badly Formed | The number of badly formed this type of message on specific interface. |
| Decode Error | The number of this type of message on specific interface with decode error. |
| Unspecified Error | The number of this type of message on specific interface with unspecified error. |
| Missing Mandatory TLV | The number of this type of message on specific interface with missing mandatory TLVs. |
| TLV Value Invalid | The number of this type of message on specific interface with invalid TLV value. |
| Unknown TLV | The number of this type of message on specific interface with unknown TLVs. |
| Duplicate TLV Found | The number of this type of message on specific interface with duplicate TLVs. |
| No session Found | The number of this type of message on specific interface without any session information. |

| Field | Description |
|---|---|
| No Resource Drops | The number of this type of message on specific interface without resource drops. |
| Admin Prohibited | The number of this type of message on specific interface with admin prohibited. |
| Transaction Id. Error | The number of this type of message on specific interface. with transaction id error. |
| Congestion/Overloaded | Number of R4/R6 control messages received with a congestion/overload error. |
| Message Groups | |
| R6 Idle Mode Entry MS State Change Response Msg | Groups the statistics of the Idle Mode Entry MS State Change Response messages on R6 interface. |
| R6 Idle Mode Entry MS State Change Ack Msg | Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R6 interface. |
| R6 Idle Mode Exit MS State Change Request Msg | Groups the statistics of the Idle Mode Exit MS State Change Request messages on R6 interface. |
| R6 Idle Mode Exit MS State Change Response Msg | Groups the statistics of the Idle Mode Exit MS State Change Response messages on R6 interface. |
| R6 Location Update Request Msg | Groups the statistics of the Location Update Request messages on R6 interface. |
| R6 Location Update Response Msg | Groups the statistics of the Location Update Response messages on R6 interface. |
| R6 Location Update Confirm Msg | Groups the statistics of the Location Update Confirm messages on R6 interface. |
| R6 Paging Announce Msg | Groups the statistics of the Paging Announce messages on R6 interface. |
| R4 Idle Mode Entry MS State Change Request Msg | Groups the statistics of the Idle Mode Entry MS State Change Request messages on R4 interface. |
| R4 Idle Mode Entry MS State Change Response Msg | Groups the statistics of the Idle Mode Entry MS State Change Response messages on R4 interface. |
| R4 Idle Mode Entry MS State Change Ack Msg | Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R4 interface. |
| R4 Idle Mode Exit MS State Change Request Msg | Groups the statistics of the Idle Mode Exit MS State Change Request messages on R4 interface. |
| R4 Idle Mode Exit MS State Change Response Msg | Groups the statistics of the Idle Mode Exit MS State Change Response messages on R4 interface. |

| Field | Description |
|--|--|
| R4 Initiate Paging Request Msg | Groups the statistics of the Initiate Paging Request messages on R4 interface. |
| R4 Initiate Paging Response Msg | Groups the statistics of the Initiate Paging Response messages on R4 interface. |
| R4 Location Update Request Msg | Groups the statistics of the Location Update Request messages on R4 interface. |
| R4 Location Update Response Msg | Groups the statistics of the Location Update Response messages on R4 interface. |
| R4 Location Update Confirm Msg | Groups the statistics of the Location Update Confirm messages on R4 interface. |
| R4 Network Exit MS State Change Request Msg | Groups the statistics of the Network Exit MS State Change Request messages on R4 interface. |
| R4 Network Exit MS State Change Response Msg | Groups the statistics of the Network Exit MS State Change Response messages on R4 interface. |
| R4 Delete MS Entry Request Msg | Groups the statistics of the Delete MS Entry Request messages on R4 interface. |
| R4 Delete MS Entry Response Msg | Groups the statistics of the Delete MS Entry Response messages on R4 interface. |
| R4 Anchor PC Ind Msg | Groups the statistics of the Anchor Paging Controller Indicator messages on R4 interface. |
| R4 Anchor PC Ack Msg | Groups the statistics of the Anchor Paging Controller Ack messages on R4 interface. |
| R4 PC Relocation Ind Msg | Groups the statistics of the PC Relocation Ind messages on the R4 interface. |
| R4 PC Relocation Ack Msg | Groups the statistics of the PC Relocation Ack messages on the R4 interface. |
| R4 Context Request Msg | Groups the statistics of the Context Request messages on R4 interface. |
| R4 Context Report Msg | Groups the statistics of the Context Report messages on R4 interface. |
| R4 CMAC Key Count Update Msg | Groups the statistics of the CMAC Key Count Update messages on the R4 interface. |
| R4 CMAC Key Count Ack Msg | Groups the statistics of the CMAC Key Count Ack messages on the R4 interface. |
| R6 Keep Alive Request Msg | Groups the statistics of the R6 Keep Alive Request messages on the R4 interface. |

| Field | Description |
|----------------------------|--|
| R6 Keep Alive Response Msg | Groups the statistics of the R6 Keep Alive Response messages on the R4 interface. |
| Total Sessions Connected | Groups the statistics of the CMAC Key Count Ack messages on the R4 interface. |
| R6/R4 Unknown Messages | Groups the statistics of the Unknown type of messages on R6 and/or R4 interface. |
| Message Statistics | |
| Total Sent | The total number of this type of message sent on specific interface. |
| Total Send Failures | The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets. |
| Retransmissions Sent | The number of this type of message re-transmitted on specific interface. |
| Total Received | The total number of this type of message received on specific interface. |
| Total Accepted | The total number of this type of message accepted on specific interface. |
| Total Relayed | The total number of this type of message relayed on specific interface. |
| Total Denied | The total number of this type of message denied on specific interface. |
| Total Discarded | The total number of this type of message discarded on specific interface. |
| Badly Formed | The number of badly formed this type of message on specific interface. |
| Decode Error | The number of this type of message on specific interface with decode error. |
| Unspecified Error | The number of this type of message on specific interface with unspecified error. |
| Missing Mandatory TLV | The number of this type of message on specific interface with missing mandatory TLVs. |
| TLV Value Invalid | The number of this type of message on specific interface with invalid TLV value. |
| Unknown TLV | The number of this type of message on specific interface with unknown TLVs. |

| Field | Description |
|-----------------------|---|
| Duplicate TLV Found | The number of this type of message on specific interface with duplicate TLVs. |
| No session Found | The number of this type of message on specific interface without any session information. |
| No Resource Drops | The number of this type of message on specific interface without resource drops. |
| Admin Prohibited | The number of this type of message on specific interface with admin prohibited. |
| Transaction Id. Error | The number of this type of message on specific interface. with transaction id error. |



CHAPTER 14

show bcmcs

This chapter includes the **show bcmcs** command output tables.

- [show bcmcs counters all, on page 561](#)
- [show bcmcs statistics, on page 563](#)

show bcmcs counters all

Table 142: show bcmcs counters all Command Output Descriptions

| Field | Description |
|---|---|
| Username | BCMCS group username for this output. |
| Callid | Call ID for this output. |
| Flow-id | Flow ID for this output. |
| BCMCS Service Request/Reply | |
| Renew SRQ Accepted | The total number of service request renewals accepted. |
| Discarded | The total number of service request renewals discarded. |
| Response Send Error | The total number of service replies for which errors were experienced during transmission. |
| BCMCS Registration Request/Reply | |
| Renew RRQ Accepted | The total number of registration request renewals accepted. |
| Discarded | The total number of registration request renewals discarded. |
| Response Send Error | The total number of registration replies for which errors were experienced during transmission. |
| BCMCS Registration Update/Ack | |
| Initial Update Transmitted | The total number of registration updates that have been transmitted. |

| Field | Description |
|--|--|
| Update Retransmitted | The total number of registration updates that have been re-transmitted. |
| Denied | The total number of registration updates that have been denied by the PCF. |
| Not Acknowledged | The total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF. |
| Reg Ack Received | The total number of registration acknowledgements that have been received. |
| Reg Ack Discarded | The total number of registration acknowledgements that have been discarded. |
| Update Send Error | The total number of registration updates for which errors were experienced during transmission. |
| BCMCS Registration Update Send Reason | |
| Lifetime Expiry | The total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session. |
| Upper Layer Initiated | The total number of registration updates that were initiated by upper processing layers. |
| Other Reasons | The total number of registration updates that were sent due to reasons other than those listed here. |
| Session Manager Exited | The total number of registration updates that were sent due to the termination of Session Manager tasks. NOTE: If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem. |
| BCMCS Registration Update Denied | |
| Reason Unspecified | The total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified). |
| Admin Prohibited | The total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |
| BSN Failed Authentication | The total number of denied registration updates due to authentication failure by the mobile node. |
| Identification Mismatch | The total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch). |

| Field | Description |
|--|--|
| Poorly Formed Update | The total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request). |
| GRE Send | |
| Total Packets Sent | Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted. |
| Total Bytes Sent | Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted. |
| Total BCMCS Sessions matching specified criteria | Total number of sessions matching specified criteria. |

show bcmcs statistics

Table 143: show bcmcs statistics Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Session Stats | |
| Total Sessions Current | Indicates the total number of sessions that are in progress. These could be either active, dormant, being set up, or being disconnected. |
| Current Flow-id session | Indicates the number of flow-id sessions in progress. These could be active, dormant, being set up or being disconnected. |
| Current Pgm-Id Session | Indicates the number of program-id sessions in progress. These could be active, dormant, being set up or being disconnected. |
| Total Setup | Indicates the total number of sessions that have been successfully set up since system started. |
| Total Released | Indicates the total number of sessions that have successfully been disconnected. |
| Total Setup Flow-Id | Indicates the total number of flow-id sessions that have been successfully set up since the system was started. |
| Total Setup Program-Id | Indicates the total number of program-id sessions that have been successfully set up since the system was started. |
| Session Releases | |
| De-registered | Indicates the total number of sessions that were disconnected through a normal de-registration process. |

| Field | Description |
|---------------------------------------|--|
| Lifetime Expiry | Indicates the total number of sessions that were disconnected due to the expiration of their lifetime timer. |
| PPP Layer Command | Indicates the number of sessions disconnected due to PPP initiating a tear-down. |
| PCF-Monitor Fail | The total number of sessions disconnected because the PCF monitor function detected that the PCF was down. |
| GRE Key Mismatch | The total number of sessions disconnected because the GRE key changed for a session. |
| Other Reasons | Indicates the number of sessions disconnected due to reasons other than those listed here. |
| BCMCS Service Request/Response | |
| Total SRQ/Renew/Dereg RX | The total number of service requests, renewals, and de-registrations received. |
| Total Accept | The total number of service requests that have been received and accepted. |
| Total Denied | Total number of service requests that have been received and denied. |
| Total Discard | Total number of service requests that have been received and discarded. |
| Init SRQ RX | The total number of initial setup or start service requests that have been received. |
| Init SRQ Accept | The total number of initial setup or start service requests that have been received and accepted. |
| Init SRQ Denied | The total number of initial setup or start service requests that have been received and denied. |
| Init SRQ Discard | The total number of initial setup or start service requests that have been received and discarded. |
| Renew SRQ RX | The total number of service request renewals received. |
| Renew SRQ Accept | The total number of service request renewals received and accepted. |
| Renew SRQ Denied | The total number of service request renewals received and denied. |
| Renew SRQ Discard | The total number of service request renewals received discarded. |
| Dereg SRQ RX | The total number of de-registration requests that have been received. |

| Field | Description |
|---|--|
| Dereg SRQ Accept | The total number of de-registration requests that have been received and accepted. |
| Dereg SRQ Denied | The total number of de-registration requests that have been received and denied. |
| Dereg SRQ Discard | The total number of de-registration requests that have been received and discarded. |
| Response Send Error | Indicates the total number of registration replies for which errors were experienced during transmission. |
| BCMCS Service Request Denied | |
| Requests Accepted | Indicates the total number of service requests that were denied based on the number of requests accepted. |
| Unspecified Reason | Indicates the total number of service requests that were denied for unspecified reasons. |
| PCF Failed Auth | Indicates the total number of service requests that were denied due to mobile node authentication failure. |
| Identification Mismatch | Indicates the total number of service requests that were denied due to an identification mismatch. |
| Unknown BSN | Indicates the total number of service requests that were denied due to an unknown BSN address. |
| BCMCS SRQ Denied - Insufficient Resource Reasons | |
| No Session Manager | Indicates the total number of service requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| No Memory | Indicates the total number of service requests that were denied due to insufficient memory. |
| Session Managers Retried | Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session. |
| Input-Q Exceeded | Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| BCMCS SRQ Denied - Poorly Formed Request Reasons | |
| Session Already Dormant | The number of SRQs that had Active Stop for a session that was already dormant. |
| Already Active | The number of SRQs that had Active Start for a session that was already active. |

| Field | Description |
|---|--|
| Other Reasons | The number of SRQs denied due to other reasons for a badly formed SRQ. |
| BCMCS SRQ Denied - Overload/Congestion Control | |
| Admin Prohibited (reject) | SRQs denied due to congestion control mechanism. |
| Unknown BSN (redirect) | SRQs denied due to congestion control mechanism. |
| BCMCS Registration Request/Reply | |
| Total RRQ/Renew/Dereg RX | The total number of registration requests, renewals, and de-registrations received. |
| Total Accept | The total number of registration requests that have been accepted. |
| Total Denied | The total number of registration requests that have been rejected. |
| Total Discard | The total number of registration requests that have been discarded. |
| Init RRQ RX | The total number of initial registration requests that have been received. |
| Init RRQ Accept | The total number of initial registration requests received and accepted. |
| Init RRQ Denied | The total number of initial registration requests received and rejected. |
| Init RRQ Discard | The total number of initial registration requests that have been received and discarded. |
| Renew RRQ RX | The total number of registration request renewals received. |
| Renew RRX Accept | The total number of registration request renewals received and accepted. |
| Renew Actv Start Accept | The total number of RRQ renewals with an Active Start record received and accepted. |
| Renew Actv Stop Accept | The total number of RRQ renewals with an Active Stop record received and accepted. |
| Renew RRQ Denied | The total number of registration request renewals received and rejected. |
| Renew RRQ Discard | The total number of registration request renewals received and discarded |
| Dereg RRQ RX | The total number of de-registration requests that have been received. |
| Dereg RRQ Accept | The total number of de-registration requests received and accepted. |

| Field | Description |
|--|---|
| Dereg Active Stop Accept | The total number of de-registration requests with an active stop that were accepted. |
| Dereg RRQ Denied | The total number of de-registration requests received and rejected |
| Dereg RRQ Discard | The total number of de-registration requests received and discarded. |
| Reply Send Error | Indicates the total number of registration replies for which errors were experienced during transmission. |
| BCMCS Registration Request Denied | |
| Unspecified Reason | Indicates the total number of registration requests that were denied using reply code of 80H (Registration Denied - reason unspecified) |
| Admin Prohibited | Indicates the total number of registration requests that were denied using reply code of 81H (Registration Denied - administratively prohibited). |
| Insufficient Resources | Indicates the total number of registration requests that were denied using reply code of 82H (Registration Denied - insufficient resources). |
| PCF Failed Auth | Indicates the total number of registration requests that were denied using reply code of 83H (Registration Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of registration requests that were denied using reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Request | Indicates the total number of registration requests that were denied using reply code of 86H (Registration Denied - poorly formed request). |
| Unknown BSN Address | Indicates the total number of registration requests that were denied due to an unknown BSN address. |
| Reverse Tunnel Unavail | Indicates the total number of registration requests that were denied using reply code of 89H (Registration Denied - requested reverse tunnel unavailable). |
| Reverse Tunnel Required | Indicates the total number of registration requests that were denied using reply code of 8AH (Registration Denied - reverse tunnel is mandatory and "T"-bit not set). |
| Unrecognized Vendor Id | Indicates the total number of registration requests that were denied using reply code of 8DH (Registration Denied - unsupported vendor ID or unable to interpret data in the CVSE). |
| Session Already Closed | Renew and RRQ denied due to the session not present in the PDSN Dereg. Error code 0x8e. |

| Field | Description |
|---|---|
| BCMCS RRQ Denied - Insufficient Resource Reasons | |
| No Session Manager | Indicates the total number of registration requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| No Memory | Indicates the total number of registration requests that were denied due to insufficient memory. |
| Session Managers Retried | Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session. |
| Input-Q Exceeded | Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| BCMCS RRQ Denied - Poorly Formed Request Reasons | |
| Session Already Dormant | The number of RRQs that had Active Stop for a session that was already dormant. |
| Already Active | The number of RRQs that had Active Start for a session that was already active. |
| Other Reasons | The number of RRQs denied due to other reasons for a badly formed RRQ. |
| BCMCS RRQ Denied - Overload/Congestion Control | |
| Admin Prohibited (reject) | RRQs denied with error code 0x81h due to congestion control mechanism. |
| Unknown BSN (redirect) | RRQs denied with error code 0x88 due to congestion control mechanism. |
| BCMCS Registration Update/Ack | |
| Reg Update Transmitted | Indicates the total number of registration updates that were transmitted. |
| Accepted | Indicates the total number of registration updates that were accepted by the PCF. |
| Denied | Indicates the total number of registration updates that were denied. |
| Not Acknowledged | Indicates the total number of registration updates that were not acknowledged. |
| Initial Update TX | Indicates the total number of initial registration updates that were transmitted. |
| Update Retransmitted | Indicates the total number of registration updates that were re-transmitted. |

| Field | Description |
|---|--|
| Reg Ack Received | Indicates the total number of registration acknowledgements that were received. |
| Reg Ack Discarded | Indicates the total number of registration acknowledgements that were discarded. |
| Update Send Error | Indicates the total number of registration updates for which errors were experienced during transmission. |
| BCMCS Registration Update Send Reason | |
| Lifetime Expiry | Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session. |
| Other Reasons | Indicates the total number of registration updates that were sent due to reasons other than those listed here. |
| Upper Layer Initiated | Indicates the total number of registration updates that were initiated by upper processing layers. |
| Session Manager Exited | Indicates the number of registration updates that were sent due to the termination of a Session Manager task. |
| BCMCS Registration Update Denied | |
| Reason Unspecified | Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified). |
| Admin Prohibited | Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |
| BSN Failed Auth | Indicates the total number of denied registration updates that were sent due to failed authentication by the mobile node. |
| Identification Mismatch | Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Updated | Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request). |
| BCMCS Registration Ack Discard Reasons | |
| Session Absent | Indicates the total number of registration acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late. |
| No Memory | Indicates the total number of registration acknowledgements that were discarded due to insufficient memory. |

| Field | Description |
|-----------------------|--|
| Malformed | Indicates the total number of registration acknowledgements that were discarded due to being poorly formed. |
| Auth Failure | Indicates the total number of registration acknowledgements that were discarded due to the mobile node failing authentication. |
| Internal Bounce Error | Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent). |
| Input-Q Exceeded | Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| Mismatched Id | Indicates the total number of discarded registration acknowledgements due to reply code 85H (Registration Denied - identification mismatch). |
| Invalid Packet Length | Indicates the total number of registration acknowledgements that were discarded due to having an invalid packet length. |
| Misc Reasons | Indicates the number of registration acknowledgements that were discarded due to reasons other than those listed here. |
| GRE Send | |
| Total Packets Sent | Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted. |
| Total Bytes Sent | Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted. |



CHAPTER 15

show bearer-control-profile

This chapter describes the output of the **show bearer-control-profile** command.

- [show bearer-control-profile full name, on page 571](#)

show bearer-control-profile full name

Table 144: show bearer-control-profile full name Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Bearer Control Profile Name | Indicates the Bearer Control Profile |
| pre-rel8-qos-mapping | Defines (MME) mapping of EPC QoS (non-standard QCI) to 3GPP PreRelease8 QoS parameters. |
| Class | Indicates the UMTS traffic classified into the following: <ul style="list-style-type: none">• Background• Conversational• Interactive• Streaming |
| traffic handling priority | Traffic handling priority specifies the relative importance of handling all SDUs that belong to the UMTS bearer compared to the SDUs of other bearers. The priority value ranges from 1 to 3, where the value 1 holds the highest priority. The predefined thp value is 3. |
| sdu error ratio | Service Data Unit (SDU) Error ratio indicates the fraction of SDUs lost or detected as error packets. SDU error ratio is defined only for conforming traffic. The range is an integer ranging from 1 to 7. The ratio ranges from 10^{-1} to 10^{-6} . Allowed values are $1(10^{-2})$, $2(7*10^{-3})$, $3(10^{-3})$, $4(10^{-4})$, $5(10^{-5})$, $6(10^{-6})$ and $7(10^{-1})$. The predefined minimum value is 1. |

| Field | Description |
|-------------------------|---|
| minimum transfer delay | Defines the maximum delay for 95 percentile of the delay distributed for all delivered SDUs during the lifetime of a bearer service. The delay value ranges from 10 to 40,000 milliseconds. The predefined minimum value is 100. The delay for an SDU is defined as the time from request to transfer and SDU at one SAP to its delivery at the other SAP. |
| source stats descriptor | Toggles the source statistics descriptor. The values are either 0 or 1. |
| signaling indication | Indicates the state of the signal. |



CHAPTER 16

show bssap

This chapter includes the **show bssap** command output tables.

- [show bssap+ statistics, on page 573](#)

show bssap+ statistics

Table 145: show bssap+ statistics Command Output Descriptions

| Field | Description |
|--|--|
| Bssap+ Statistics | Base station system application part plus related statistics. |
| Number of Subscribers in Gs-Associated State | Total number of subscriber in Gs associated state or using Gs interface for connectivity between SGSN and VLR. |
| Number of Associated Vlr | Total number of VLRs associated with this BSSAP+ application. |
| Alert Req Rcvd | Total number of alert request messages received by BSSAP+ application from VLR. |
| Alert Ack Sent | Total number of acknowledge messages sent by BSSAP+ application in response to alert requests messages. |
| Alert Rej Sent | Total number of messages sent by BSSAP+ application to reject the alert requests. |
| Location Upd Req Sent | Total number of location update request messages sent by BSSAP+ application. |
| Location Upd Acc Rcvd | Total number of location update accept messages sent by BSSAP+ application from VLR. |
| Location Upd Rej Rcvd | Total number of messages sent by BSSAP+ application to reject the location update requests from VLR. |
| GPRS Detach Ind Sent | Total number of GPRS detach indication messages sent by BSSAP+ application. |

| Field | Description |
|----------------------|---|
| GPRS Detach Ack Rcvd | Total number of acknowledge messages received by BSSAP+ application in response to GPRS detach indication messages sent to VLR. |
| IMSI Detach Ind Sent | Total number of IMSI detach indication messages sent by BSSAP+ application to VLR. |
| IMSI Detach Ack Rcvd | Total number of acknowledge messages received by BSSAP+ application in response to IMSI detach indication messages sent to VLR. |
| Mobile Status Rcvd | Total number of mobile status messages received by BSSAP+ application from VLR. |
| Mobile Status Sent | Total number of mobile status messages sent by BSSAP+ application to VLR. |
| Paging Req Rcvd | Total number of paging request messages received by BSSAP+ application from VLR. |
| Paging Rej Sent | Total number of messages sent by BSSAP+ application to reject the received paging request messages from VLR. |
| MS Unreachable Sent | Total number of messages sent by BSSAP+ application to indicate that mobile is unreachable to VLR. |
| TMSI Reloc Comp Sent | Total number of messages sent by BSSAP+ application with TMSI relocation components to VLR. |
| MS Info Req Rcvd | Total number of MS information request messages received by BSSAP+ application from VLR. |
| MS Info Rsp Sent | Total number of response messages sent by BSSAP+ application in response to MS information request messages from VLR. |
| MM Info Req Rcvd | Total number of mobility management (MM) information request messages received by BSSAP+ application from VLR. |
| MS Activity Ind Sent | Total number of MS activity indication messages sent by BSSAP+ application to VLR. |
| Reset Ind Rcvd | Total number of reset indicator messages received by BSSAP+ application from VLR. |
| Reset Ack Sent | Total number of acknowledge messages sent by BSSAP+ application in response to reset indicator message received from VLR. |
| Reset Ind Sent | Total number of reset indicator messages sent by BSSAP+ application to VLR. |
| Reset Ack Rcvd | Total number of acknowledge messages received by BSSAP+ application in response to reset indicator message sent to VLR. |

| Field | Description |
|------------------------|---|
| Downlink Tnnl Req Rcvd | Total number of downlink tunnel request messages received by BSSAP+ application from VLR. |
| Uplink Tnnl Req Sent | Total number of uplink tunnel request messages sent by BSSAP+ application to VLR. |



CHAPTER 17

show build

This chapter includes the **show build** command output table.

- [show build, on page 577](#)

show build

This command displays detailed information about the currently active StarOS release build.

Table 146: show build Command Output Descriptions

| Field | Description |
|----------------------|--|
| Active Software: | |
| Image Version | Identifies the StarOS version running on this platform. |
| Image Build Number: | Displays build number or build type (text string). |
| Image Description: | Brief text string that describes this build. For example, "Deployment_Build". |
| Image Date: | The date the software image was generated. Format = DoW MMM DD hh:mm:ss TZ YYYY. For example, "Tue May 4 00:45:12 EDT 2016". |
| Boot Image: | The pathname for the bootable image that is currently running. For example, "/flash/<image_filename>.bin". |
| Kernel Version: | The StarOS kernel version number. For example, "2.6.38-staros-v3-51074-deb-64". |
| Kernel Machine Type: | The StarOS machine (CPU) type. For example, "x86_64" (64-bit version of the Intel x86 instruction set). |
| Build Information: | |
| Kernel Build: | Text string identifying the kernel build script with timestamp. |

| Field | Description |
|---------------------------------|---|
| Image Build Type: | Text string identifying the type of build. |
| Image Build User: | Text string identifying the build user. |
| Image Build Machine: | Text string identifying the machine on which the build was created. |
| Image Build Changeset Version: | Text string identifying the set of code changes incorporated into this build. |
| Image Build Changeset Author: | Text string identifying the author of the Changeset. |
| Image Build Changeset Location: | Text string identifying the location of the Changeset, for example "cisco.com". |
| Image Build Changeset Number | The 40-character string that corresponds to the Git commit identifier (SHA-1 hash) for the build. |
| Image Build Changeset PID | Text string identifying the Cisco Part Identifier (PID) assigned to this Changeset. |



CHAPTER 18

show bulkstats data

This chapter includes the **show bulkstats data** command output tables.

- [show bulkstats data, on page 579](#)

show bulkstats data

Table 147: show bulkstats data Command Output Descriptions

| Field | Description |
|--|--|
| Bulk Statistics Server Configuration: | |
| Server State | Indicates the server state—enabled/disabled. |
| File Limit | Indicates the file size limit in KBs. |
| Sample Interval | Indicates the sampling interval. |
| Transfer Interval | Indicates the transfer interval. |
| Receiver Mode | Indicates the receiver mode. |
| Local File Storage | Indicates the local file storage. |
| Historical Data Collection | Indicates the Historical Data Collection state—enabled/disabled. |
| Bulk Statistics Server Statistics: | |
| Records awaiting transmission | Indicates the number of records awaiting transmission. |
| Bytes awaiting transmission | Indicates the number of bytes awaiting transmissions. |
| Total records collected | Indicates the total number of records collected. |
| Total bytes collected | Indicates the total number of bytes collected. |
| Total records transmitted | Indicates the total number of records transmitted. |
| Total bytes transmitted | Indicates the total number of bytes transmitted. |

| Field | Description |
|-------------------------------|--|
| Total records discarded | Indicates the total number of records discarded. |
| Total bytes discarded | Indicates the total number of bytes discarded. |
| Last collection time required | Indicates the last collection time required. |
| Last transfer time required | Indicates the last transfer time required. |
| No successful data transfers | Indicates successful data transfers. |
| No attempted data transfers | Indicates attempted data transfers. |
| Fine n | |
| Remote File Format | The remote file format—for example, %date%-%time% |
| File Header | The file's header. |
| File Footer | The file's footer. |
| No bulkstats receivers | Indicates the total number of Bulk Statistics collection servers configured. |
| File Statistics: | |
| Records awaiting transmission | Indicates the number of records awaiting transmission. |
| Bytes awaiting transmission | Indicates the number of bytes awaiting transmissions. |
| Total records collected | Indicates the total number of records collected. |
| Total bytes collected | Indicates the total number of bytes collected. |
| Total records transmitted | Indicates the total number of records transmitted. |
| Total bytes transmitted | Indicates the total number of bytes transmitted. |
| Total records discarded | Indicates the total number of records discarded. |
| Total bytes discarded | Indicates the total number of bytes discarded. |
| Last transfer time required | Indicates the last transfer time required. |
| No successful data transfers | Indicates successful data transfers. |
| No attempted data transfers | Indicates attempted data transfers. |



CHAPTER 19

show cae-group server name

This chapter includes the **show cae-group server name** command output tables.

- [show cae-group server name, on page 581](#)

show cae-group server name

Important In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.

Table 148: show cae-group server name Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Server | The name of the CAE. |
| IP | The IPv4 address of the CAE. |
| State | The current state of the CAE, which can be Init (Initializing), Up, Down, or Tmout (Timed Out). |
| Hit Count | The number of HTTP GET requests sent to this CAE. A single video may contain multiple HTTP GET requests from the UE. |
| Timeout Consecutive (Cumulative) | The number of current consecutive timeouts that have occurred on the keep-alive heartbeat. This counter is reset to 0 if the Mobile Video Gateway is receiving no responses from the CAE. (Cumulative) is the total number of timeouts that have occurred since the last reset (clear) of the statistics for this CAE. |
| Last Failure | The duration of time since the CAE state was last transitioned to Down. |

show cae-group server name



CHAPTER 20

show call-control-profile

This chapter describes the output of the **show call-control-profile** command.

- [show call-control-profile full name](#), on page 583

show call-control-profile full name

This command displays the detailed configuration for a specifically named call control profile.

Table 149: show call-control-profile full name Command Output Descriptions

| Field | Description |
|--|--|
| Call Control Profile Name | The name of the call control profile you chose to view. |
| Accounting Context Name | The name of the accounting context associated with this call control profile. |
| Accounting GTPP Group Name | The name of the GTPP accounting group associated with this call control profile. |
| Secondary GTPP Group Name | The name of the secondary GTPP accounting group associated with this S-GW call control profile. |
| Secondary GTPP Accounting Context Name | The accounting context used for secondary GTPP accounting. |
| Accounting Mode (SGW) | The method selected for S-GW accounting (GTPP [default], none, or RADIUS/Diameter). |
| GPRS Attach All | Indicates whether the call control profile allows or restricts attaches of all subscribers using the GPRS access type. |
| GPRS Attach All Failure Code | The configured GMM failure code to be sent in reject messages to GPRS mobile subscribers attempting to attach. |
| UMTS Attach All | Indicates whether the call control profile allows or restricts attaches of all subscribers using the UMTS access type. |
| UMTS Attach All Failure Code | The configured GMM failure code to be sent in reject messages to UMTS mobile subscribers attempting to attach. |

| Field | Description |
|--------------------------------------|---|
| GPRS RAU Intra All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from the intra-SGSN RAU procedure. |
| GPRS RAU Intra All Failure Code | The configured GMM failure cause code that identifies the reason an intra-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber. |
| UMTS RAU Intra All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from the intra-RAU procedure. |
| UMTS RAU Intra All Failure Code | The configured GMM failure cause code that identifies the reason an intra-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber. |
| GPRS RAU Inter-PLMN All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from triggering RAUs between different PLMNs. |
| GPRS RAU Inter-PLMN All Failure Code | The configured GMM failure cause code that identifies the reason an RAU does not occur between different PLMNs. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber. |
| UMTS RAU Inter-PLMN All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from triggering RAUs between different PLMNs. |
| UMTS RAU Inter-PLMN All Failure Code | The configured GMM failure cause code that identifies the reason an RAU does not occur between different PLMNs. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber. |
| GPRS RAU Inter All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from the inter-SGSN RAU procedure. |
| GPRS RAU Inter All Failure Code | The configured GMM failure cause code that identifies the reason an inter-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber. |
| UMTS RAU Inter All | Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from the inter-RAU procedure. |
| UMTS RAU Inter All Failure Code | The configured GMM failure cause code that identifies the reason an inter-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber. |

| Field | Description |
|---|--|
| Failure Code For Peer Sgsn Address Resolution Failure | The configured GMM failure cause code that indicates that the SGSN cannot resolve the IP address for a peer SGSN. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| GPRS SMS MO All | Indicates whether the call control profile allows or restricts mobile-originated SMS messages from subscribers using the GPRS access type. |
| GPRS SMS MO All Failure Code | The configured GMM failure cause code that indicates that mobile-originated SMS messages from GPRS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| UMTS SMS MO All | Indicates whether the call control profile allows or restricts mobile-originated SMS messages from subscribers using the UMTS access type. |
| UMTS SMS MO All Failure Code | The configured GMM failure cause code that indicates that mobile-originated SMS messages from UMTS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| GPRS SMS MT All | Indicates whether the call control profile allows or restricts mobile-terminated SMS messages to subscribers using the GPRS access type. |
| GPRS SMS MT All Failure Code | The configured GMM failure cause code that indicates that mobile-terminated SMS messages to GPRS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| UMTS SMS MT All | Indicates whether the call control profile allows or restricts mobile-terminated SMS messages to subscribers using the UMTS access type. |
| UMTS SMS MT All Failure Code | The configured GMM failure cause code that indicates that mobile-terminated SMS messages to UMTS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| GPRS Primary PDP Context Activation All | Indicates whether primary PDP context activation is allowed for GPRS mobile subscribers. |
| GPRS Secondary PDP Context Activation All | Indicates whether secondary PDP context activation is allowed for GPRS mobile subscribers. |
| GPRS PDP Context Activation All Failure Code | The configured GMM failure cause code that indicates that PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |

| Field | Description |
|---|---|
| UMTS Primary PDP Context Activation All | Indicates whether primary PDP context activation is allowed for UMTS mobile subscribers. |
| UMTS Secondary PDP Context Activation All | Indicates whether secondary PDP context activation is allowed for UMTS mobile subscribers. |
| UMTS PDP Context Activation All Failure Code | The configured GMM failure cause code that indicates that PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| GPRS Nw Init Primary PDP Context Activation All | Indicates whether network-initiated primary PDP context activation is allowed for GPRS mobile subscribers. |
| GPRS Nw Init Primary PDP Ctxt Activation All Failure Code | The configured GMM failure cause code that indicates that network-initiated primary PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| GPRS Nw Init Secondary PDP Ctxt Activation All | Indicates whether network-initiated secondary PDP context activation is allowed for GPRS mobile subscribers. |
| GPRS Nw Init Secondary PDP Ctxt Activation All Failure Code | The configured GMM failure cause code that indicates that network-initiated secondary PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| UMTS Nw Init Primary PDP Context Activation All | Indicates whether network-initiated primary PDP context activation is allowed for UMTS mobile subscribers. |
| UMTS Nw Init Primary PDP Ctxt Activation All Failure Code | The configured GMM failure cause code that indicates that network-initiated primary PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| UMTS Nw Init Secondary PDP Ctxt Activation All | Indicates whether network-initiated secondary PDP context activation is allowed for UMTS mobile subscribers. |
| UMTS Nw Init Secondary PDP Ctxt Activation All Failure Code | The configured GMM failure cause code that indicates that network-initiated secondary PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| SRNS Intra All | Indicates whether intra-SRNS (Serving Radio Network Subsystem) relocation is allowed for mobile subscribers. |
| SRNS Intra All Failure Code | The configured GMM failure cause code that indicates that intra-SRNS relocation is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| SRNS Inter All | Indicates whether inter-SRNS relocation is allowed for mobile subscribers. |

| Field | Description |
|----------------------------------|---|
| SRNS Inter All Failure Code | The configured GMM failure cause code that indicates that inter-SRNS relocation is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| S6a Hss Service | Indicates the name of the home subscriber server, if configured, that the SGSN will access via the S6a interface. |
| S13 Hss Service | If configured, indicates the name of the home subscriber server that the SGSN will access via the S13 interface. |
| S6d Hss Service | S4-SGSN only. Indicates the name of the home subscriber server, if configured, that the SGSN will access via the S6d interface to obtain subscriber-related information. |
| S13 prime Hss Service | S4-SGSN only. Indicates the name of the home subscriber server (HSS), if configured, that the SGSN will access via the S13' interface to perform Mobile Equipment Identity checks. |
| Preferred Subscription Interface | If configured, indicates the preferred subscription interface (HLR or HSS). HLR indicates that the MAP protocol will be used to exchange messages with the HLR. HSS indicates that the Diameter protocol will be used to exchange messages with the HSS. The preferred subscription interface is displayed as hss for epc-ue if prefer subscription-interface hss epc-ue is configured under the Call Control Profile. This keyword is configured to select the HSS interface for EPC capable subscribers. |
| DNS GGSN Context | On an S4-SGSN, indicates the context associated for DNS lookup for a GGSN. |
| DNS SGSN Context | On an S4-SGSN, indicates the context associated for DNS lookup for an SGSN. |
| DNS PGW Context | Indicates the context associated for DNS lookup for a P-GW. |
| DNS SGW Context | Indicates the context associated for DNS lookup for an S-GW. |
| DNS MSC Context | On an MME, indicates the context associated for DNS lookup for an Mobile Switching Center (MSC). |
| Sgtp-service Context | The name of the context that has the applicable SGTP service for this call control profile associated with it. |
| Service | The name of the SGTP service associated with the context. |
| Authentication All-Events | Indicates whether authentication for all events (attaches, activates, and so forth) has been enabled or disabled. |
| Authentication Attach | Indicates whether authentication for an Attach with a local P-TMSI or Attaches with an IMSI has been enabled or disabled. |

| Field | Description |
|---|--|
| Authentication Attach (Inter RAT) | Indicates whether Attach message authentication has been enabled or disabled for re-authorizing subscribers on a change in Radio Access Type (RAT) of the subscriber's node. |
| Authentication Attach (Gprs only) | Indicates whether Attach message authentication has been enabled or disabled for calls from GPRS mobile subscribers. |
| Authentication Attach (Combined) | Indicates whether authentication for combined GPRS/IMSI Attaches has been enabled or disabled. |
| Authentication Activate | Indicates whether authentication for activate requests has been enabled or disabled. |
| Authentication Service Request | Indicates whether authentication for all service requests has been enabled or disabled. |
| Authentication Service Request (Signaling) | Indicates whether authentication for signaling service requests has been enabled or disabled. |
| Authentication Service Request (Data) | Indicates whether authentication for data service requests has been enabled or disabled. |
| Authentication Service Request (Page Response) | Indicates whether authentication for page response service requests has been enabled or disabled. |
| Authentication RAU | Indicates whether authentication for routing area updates has been enabled or disabled. |
| Authentication RAU (Periodic) | Indicates whether authentication for periodic RAU Requests has been enabled or disabled. |
| Authentication RAU (Ra update) | Indicates whether authentication for RA update RAU Requests has been enabled or disabled. |
| Authentication RAU (Ra update with Local Ptmsi) | Indicates whether authentication for RA update using the local P-TMSI type of RAU Requests has been enabled or disabled. |
| Authentication RAU (Ra update with Foreign Ptmsi) | Indicates whether authentication for RA update using foreign P-TMSI type of RAU Requests has been enabled or disabled. |
| Authentication RAU (Imsi Combined Update) | Indicates whether authentication for RA update RAU Requests using the inter-RAT P-TMSI has been enabled or disabled. |
| Authentication RAU (Combined Update) | Indicates whether authentication for RAU Requests using the local P-TMSI has been enabled or disabled. |
| Authentication RAU (Combined Update IRAT PTMSI) | Indicates whether authentication for RAU Requests using inter-RAT and the local P-TMSI has been enabled or disabled. |
| Authentication RAU (Imsi Combined Update) | Indicates whether authentication for RAU Requests using IMSI and local P-TMSI values has been enabled or disabled. |

| Field | Description |
|--|--|
| Authentication RAU (Imsi Combined Update IRAT PTMSI) | Indicates whether authentication for RAU Requests using IMSI values, inter-RAT, and the local P-TMSI has been enabled or disabled. |
| Authentication Detach | Indicates whether authentication for Detach Requests has been enabled or disabled. |
| Authentication SMS | Indicates whether authentication for all SMS messages has been enabled or disabled. |
| Authentication SMS (MO-SMS) | Indicates whether authentication for mobile-originated SMS messages has been enabled or disabled. |
| Authentication SMS (MT-SMS) | Indicates whether authentication for mobile-terminated SMS messages has been enabled or disabled. |
| Regional Subscription Restriction Failure Code Value | The configured GMM failure cause code that indicates that mobile subscriber lacks the required subscription to place calls to the region. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| ARD-Checking | Indicates whether access restriction data (ARD) checking in incoming subscriber data (ISD) messages has been enabled or disabled. |
| ARD Failure Code | The configured GMM failure cause code that indicates the incoming subscriber data has failed ARD checking. This GMM cause code will be sent in the reject message to the mobile subscriber. |
| Access Restriction Data | Indicates if the eutran-not-allowed parameter is enabled to override the "eutran-not-allowed" flag received from the HLR/HSS in the ISD/ULA request for the Access Restriction Data (ARD) parameter. The helps ensure that an SRNS relocation handover to E-UTRAN is not allowed for E-UTRAN capable UEs that have only a UTRAN/GERAN roaming agreement. |
| Zone-Code Check | Indicates whether zone code checking has been enabled or disabled. |
| Usage of Auth Vectors From Old Sgsn | Indicates whether the ability of an SGSN to receive authorization vectors from other SGSNs has been enabled or disabled. |
| SGSN Address | Provides information on how the peer SGSN is configured, including the peer IP address, RAC and LAC values or RNC_ID, and interface type. |
| PEER-MME | Provides information on how the peer MME is configured, including the peer IP address, MME Group ID or TAC, and interface type. |
| Order of Preference for Integrity Algorithm is | The integrity algorithm that receives the first priority. |

| Field | Description |
|--|--|
| Order of Preference for Encryption Algorithm is | The encryption algorithm that receives the first priority. |
| Order of Preference for Gprs Ciphering Algorithm is | The GPRS ciphering algorithm that receives the first priority. |
| PTMSI-signature allocation | Indicates whether P-TMSI signature allocation has been enabled or disabled. |
| PTMSI-Signature-Realloc Interval value UMTS | The time interval (in minutes) for skipping the P-TMSI signature service/RAU/attach request message procedure for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc Interval value GPRS | The time interval (in minutes) for skipping the P-TMSI signature service/RAU/attach request message procedure for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc Frequency value UMTS | How many times P-TMSI signature reallocation for service requests can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc Frequency value GPRS | How many times P-TMSI signature reallocation for service requests can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc Attach Frequency value UMTS | How many times P-TMSI signature reallocation for Attach requests can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc Attach Frequency value GPRS | How many times P-TMSI signature reallocation for Attach requests can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc RAU (Generic) Frequency value UMTS | How many times P-TMSI signature reallocation for routing area updates can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc RAU (Generic) Frequency value GPRS | How many times P-TMSI signature reallocation for routing area updates can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc RAU Periodic Frequency value UMTS | How many times P-TMSI signature reallocation for periodic routing area updates can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc RAU Periodic Frequency value GPRS | How many times P-TMSI signature reallocation for periodic routing area updates can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc RAU RA Update Frequency value UMTS | How many times P-TMSI signature reallocation for routing area update RA updates can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc RAU RA Update Frequency value GPRS | How many times P-TMSI signature reallocation for routing area update RA updates can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc RAU Combined Update Frequency value UMTS | How many times P-TMSI signature reallocation for combined requests can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc RAU Combined Update Frequency value GPRS | How many times P-TMSI signature reallocation for combined requests can be skipped for GPRS mobile subscribers. |

| Field | Description |
|--|--|
| PTMSI-Signature-Realloc RAU Imsi Combined Update Frequency value UMTS | How many times P-TMSI signature reallocation for combined RAU updates with IMSI values can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc RAU Imsi Combined Update Frequency value GPRS | How many times P-TMSI signature reallocation for combined RAU updates with IMSI values can be skipped for GPRS mobile subscribers. |
| PTMSI-Signature-Realloc Ptmsi-Reallocation-Cmd Update Frequency value UMTS | How many times P-TMSI signature reallocation during PTMSI reallocation can be skipped for UMTS mobile subscribers. |
| PTMSI-Signature-Realloc Ptmsi-Reallocation-Cmd Update Frequency value GPRS | How many times P-TMSI signature reallocation during PTMSI reallocation can be skipped for GPRS mobile subscribers. |
| PTMSI-Realloc Attach | Indicates whether P-TMSI reallocation has been enabled or disabled. |
| PTMSI-Realloc Interval | The time interval (in minutes) for skipping the P-TMSI reallocation during the service/RAU/attach request message procedure. |
| PTMSI-Realloc Frequency | How many times P-TMSI reallocation can be skipped during service/RAU/attach request message procedure. |
| PTMSI-Realloc RAU | Indicates whether P-TMSI reallocation during routing area updates has been enabled or disabled. |
| PTMSI-Realloc RAU (Periodic) | Indicates whether P-TMSI reallocation during periodic routing area updates has been enabled or disabled. |
| PTMSI-Realloc RAU (Periodic) Frequency value | How many times P-TMSI reallocation can be skipped during the periodic RAU message procedure. |
| PTMSI-Realloc RAU (Ra-Update) | Indicates whether P-TMSI reallocation during the RA update RAU request procedure has been enabled or disabled. |
| PTMSI-Realloc RAU (Ra-Update) Frequency | How many times P-TMSI reallocation can be skipped during the RA update RAU message procedure. |
| PTMSI-Realloc RAU (Combined-Update) | Indicates whether P-TMSI reallocation during the RAU combined update procedure has been enabled or disabled. |
| PTMSI-Realloc RAU (Combined-Update) Frequency | How many times P-TMSI reallocation can be skipped during the RAU combined update message procedure. |
| PTMSI-Realloc RAU (Combined-Update with IMSI attach) | Indicates whether P-TMSI reallocation during the RAU combined update with IMSI procedure has been enabled or disabled. |
| PTMSI-Realloc RAU (Combined-Update with IMSI) Frequency | How many times P-TMSI reallocation can be skipped during the RAU combined update with IMSI message procedure. |
| PTMSI-Realloc Service Request (Signalling) | Indicates whether P-TMSI reallocation during signaling service requests has been enabled or disabled. |

| Field | Description |
|---|---|
| PTMSI-Realloc Service Request (Signalling) Freq | How many times P-TMSI reallocation can be skipped during the signaling service request message procedure. |
| PTMSI-Realloc Service Request (Data) | Indicates whether P-TMSI reallocation during data service requests has been enabled or disabled. |
| PTMSI-Realloc Service Request (Data) Freq | How many times P-TMSI reallocation can be skipped during the data service request message procedure. |
| PTMSI-Realloc Service Request (Page Response) | Indicates whether P-TMSI reallocation during page response service requests has been enabled or disabled. |
| PTMSI-Realloc Service Request (Page Response) Freq | How many times P-TMSI reallocation can be skipped during the page response service request message procedure. |
| Inactivity detection for establishing pdp contexts | Indicates whether an SGSN will be periodic polled to verify that it can accept requests to establish a PDP context. |
| Inactivity detection for establishing pdp contexts - Timer | The timeout value in milliseconds for determining that a SGSN is unresponsive. |
| Inactivity detection for establishing pdp contexts - Action | The action to be taken if a SGSN is declared unresponsive. |
| Monitor Re-attaches after Inactivity Detach | Indicates whether the SGSN will be monitored to determine if it has become responsive again after an inactivity timeout and detach. |
| Charging Characteristics Prefer Local | When enabled, indicates whether the call-control profile prefers the charging characteristics settings from the call control profile instead of the charging characteristics received from the HLR. |
| Charging Characteristics Behavior | The behavior bit in charging characteristics provided by the call control profile when the HLR does not provide a value. |
| Charging Characteristics Profile-Index | The charging characteristics profile index specified by the call control profile, such as 4 for prepaid billing or 8 for normal billing. |
| Charging Characteristics Behavior No Records | The behavior bit in charging characteristics that is used to determine that no accounting records will be generated. |
| APN restriction | If this feature is enable, the SGSN sends the maximum APN restriction value in every CPC Request message sent to the GGSN |
| UMTS Gmm-Information | When this feature is enabled, indicates that GPRS mobility management (GMM) parameters will be included in message to UMTS mobile subscribers. |
| GPRS Gmm-Information | When this feature is enabled, indicates that GMM parameters will be included in message to GPRS mobile subscribers. |
| User Equipment Identity Retrieval | Indicates whether International Mobile Equipment Identity (IMEI) or software version (SV) retrieval and validation has been enabled or disabled. |

| Field | Description |
|--|--|
| MAP UGL Message. Include Access Type Private Extension | The specific access-type private extension included in GPRS Location Update (GLU) request MAP messages. |
| MAP UGL Message. Include IMEISV | The specific International Mobile equipment Identity-Software Version (IMEI-SV) information included in GLU request MAP messages. |
| MAP MO-FWD-SM Message. Include IMSI | Indicates if the inclusion of the IMSI of the originating subscriber in the mobile-originated SM transfer is enabled or disabled. This parameter is included when the sending entity (MSC or SGSN) supports mobile number portability (MNP). This IMSI IE is required in the in MAP-MO-FORWARD-SHORT-MESSAGE in countries where MNP is deployed. |
| Reuse of authentication triplets | Indicates whether the reuse of authentication triplets in the event of a failure has been enabled or disabled. |
| Re-Authentication | Indicates whether the re-authentication feature, which instructs the SGSN to retry authentication with another RAND in situations where failure of the first authentication has occurred, has been enabled or disabled. |
| Direct Tunnel | Indicates if the SGSN allows direct tunneling if the direct tunneling is supported by destination node. |
| GTPU Fast Path | Indicates whether Fast Path support for network processing unit (NPU) processing of GTP-U packets of user sessions has been enabled or disabled. |
| Super Charger | Indicates whether the SGSN's ability to work with a super-charged network is enabled or disabled. By enabling the super charger functionality for 2G or 3G connections controlled by an operator policy, the SGSN changes the hand-off and location update procedures to reduce signaling traffic management. |
| Sending Radio Access Technology (RAT) IE | When this feature is enabled, the SGSN sends RAT information elements (IEs) within GTP messages. |
| Sending User Location Information (ULI) IE | When this feature is enabled, the SGSN sends ULI IEs within GTP messages. |
| Sending IMEISV IE | When this feature is enabled, the SGSN includes the IMEISV values of the mobile subscriber when sending GTP messages of the type "Create PDP Context Request". |
| Derive IMEISV from IMEI | When this feature is enabled, the SGSN sends the IMEI to the GGSN as an IMEI-SV. |
| Sending MS Time Zone IE | When this feature is enabled, the SGSN sends the mobile subscribers timezone IE in GTP messages of the type "Create PDP Request" and "Update PDPContext Request". |

| Field | Description |
|--|--|
| Treat as HPLMN | When this feature is enabled, the MME or SGSN treats an IMSI series as coming from the home PLMN. |
| Idle-mode-Signaling-Reduction (ISR) for UMTS | Indicates if the Idle-Mode-Signaling-Reduction (ISR) feature is enabled for UMTS (3G) subscribers. When ISR is enabled, the MME and SGSN allow the UE to be registered simultaneously in both the UMTS network on the SGSN and on the E-UTRAN on the MME. A separate feature license is required to enable ISR. |
| Idle-mode-Signaling-Reduction (ISR) for GPRS | Indicates if the Idle-Mode-Signaling-Reduction (ISR) feature is enabled for GPRS (2G) subscribers. When this feature is enabled, the MME and SGSN allow the UE to be registered simultaneously in both the GPRS network on the SGSN and on the E-UTRAN on the MME. A separate feature license is required to enable ISR. |
| Location Reporting for UMTS | When this feature is enabled, the MME can query and receive UE location reports from an eNodeB. |
| Location Reporting for GPRS | When this feature is enabled, the MME can query and receive UE location reports from an eNodeB. |
| SMS in MME | Displays the configured value (preferred / not-preferred) for SMS in MME. |
| SMSC Address | Displays the configured SMSC address. |
| Send SMS Subscription Request to HSS | Indicates whether the SMS Subscription Request to HSS is enabled or disabled. |
| Send SMS Subscription Notification to UE | Indicates whether the SMS Subscription Notification to UE is enabled or disabled. |
| MME S6a Message Options | |
| Notify Req (Trigger : MNRF flag) | Indicates whether the MNRF flag trigger for Notify Request is enabled or disabled |
| MME SGd Message Options | |
| Alert SC Request (Trigger : MNRF flag) | Indicates whether the MNRF flag trigger for Alert SC Request is enabled or disabled. |
| EPS Attach Restrict | |
| Voice Unsupported | When this feature is enabled, the MME can restrict UE attaches when the network does not support voice, for example when Voice over IMS is not supported in the network and the UE does not support CSFB. |
| IMSI Attach Fail | When this feature is enabled, the MME can restrict UE attaches when the IMSI Attach fails. |
| CSFB Restrictions | |

| Field | Description |
|---|--|
| SMS Only | When this setting is enabled, the MME allows SMS-only attaches for Circuit Switched Fall Back (CSFB) services. |
| Not Allowed | When this setting is enabled, the MME disallows CSFB services (both SMS-only and voice services). |
| Not Preferred | When this setting is enabled, the MME returns "not-preferred" for CSFB services for combined EPS/IMSI attach requests. |
| Network Feature Support | |
| IMS Voice Over PS | Indicates whether IMS Voice over Packet-Switched information element (IE) is supported as part of the MME (Network) Feature |
| Qos | Indicates the transmission of quality of service (QoS) parameters has been enabled or disabled. |
| AMBR | Indicates whether an aggregate maximum bit rate (AMBR) will be enforced for user equipment. |
| Gn/Gp ARP | Indicates whether Gn-Gp pre-release 8 ARP and pre-emption parameters will be enforced or not. |
| High Priority (H) (Default) | The high-priority (address retention protocol) ARP value used for QoS. |
| Medium Priority (M) (Default) | The medium-priority ARP value used for QoS. |
| Gn/Gp Pre-Emption Capabilities (Default) | The pre-emption capability criteria for PDP contexts imported from an SGSN on Gn/Gp interfaces. |
| Gn/Gp Pre-Emption Vulnerabilities (Default) | The pre-emption vulnerability criteria for PDP contexts imported from an SGSN on Gn/Gp interfaces. |
| GPRS PDP Type IPV4V6 Override | Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN. |
| UMTS PDP Type IPV4V6 Override | Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN. |
| EPS PDN Type IPV4V6 Override | Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN. |
| RFSP | Displays the configuration of the rfsp-override command which the MME uses to control the override of RAT Frequency Selection Priority (RFSP). |
| Rfsp-override eutran-ho-restricted | Displays the configured value for RAT frequency selection priority when Handover to EUTRAN is restricted. This value overrides the RFSP ID value sent by the HLR/HSS in an EPS subscription. |

| Field | Description |
|---------------------------|--|
| PDN Type IPv6 Denied | Indicates whether the MME is enabled to allow only IPv4 addresses to a PDN connection. |
| Cause Code Mapping | |
| Restricted zone code | Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone during an EMM procedure. |
| Congestion | Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition during an EMM procedure. |
| Newcall policy restrict | Displays the emm-cause-code to be returned to the UE when the policy restricts new calls. |
| APN mismatch | Displays the emm-cause-code to be returned to the UE when the system has detected an APN mismatch condition during an EMM procedure. |
| VLR down | Displays the emm-cause-code to be returned to the UE when the system has detected a VLR down condition during an EMM procedure. |
| VLR unreachable | Displays the emm-cause-code to be returned to the UE when the system has detected a VLR unreachable condition during an EMM procedure. |
| Auth failure | Displays the emm-cause-code to be returned to the UE when an authentication failure occurs. |
| PEER NODE unknown | Displays the emm-cause-code to be returned to the UE when peer node resolution is not successful. |
| CTXT transfer fail SGSN | Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer SGSN occurs. |
| CTXT transfer fail MME | Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer MME occurs. |
| HSS unavailable | Displays the emm-cause-code to be returned to the UE when HSS resolution fails in the MME or the HSS does not respond in time. |
| SGW selection failure | Displays the emm-cause-code to be returned to the UE when a failure occurs during S-GW selection. |
| PGW selection failure | Displays the emm-cause-code to be returned to the UE when a failure occurs during P-GW selection. |
| GW unreachable Attach | Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM Attach procedure. |

| Field | Description |
|--|---|
| GW unreachable TAU | Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM TAU procedure. |
| NO bearers active | Displays the emm-cause-code to be returned to the UE when the context received from a peer SGSN (during a TAU procedure) does not contain any active PDP contexts |
| SGSN Core Network Interface Selection | Displays the SGSN Core Network Interface selection. |
| SGSN Core Network Interface Type | Displays the interface type selected as either Gn or S4. |
| S4 for EPC Capable Devices | Displays the configuration as either Always or When EPS Subscription Available , based on the CLI configured in the command sgsn-core-nw-interface in the Call-Control Profile. |
| S4 for Non-EPC Capable Devices | Displays the configuration as Never or Always or When EPS Subscription Available , based on the CLI configured in the command sgsn-core-nw-interface in the Call-Control Profile. |
| Uplink data status IE in service request | This field displays whether the Uplink Data Status IE is Processed or Ignored. |
| GUTI Reallocation | This parameter indicates if GUTI Reallocation is configured. The configured status is displayed as "Enabled" or "Disabled". |
| GUTI Reallocation Frequency | Displays the value of GUTI Reallocation Frequency in number of NAS requests. |
| GUTI Reallocation Periodicity | Displays the value of GUTI Reallocation Periodicity in minutes. |
| Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Frequency | This parameter indicates if Selective Authentication frequency for all events is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Frequency Value | Displays the value of the configured Selective Authentication Frequency for all events. |
| Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Periodicity | This parameter indicates if Selective Authentication periodicity for all events is configured. If the Periodicity is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for all events. |
| Authentication Attach ANY Frequency | This parameter indicates if Selective Authentication frequency for Attach procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Attach ANY (UMTS/GPRS/EUTRAN) Frequency Value | Displays the value of the configured Selective Authentication Frequency for Attach procedures. |

| Field | Description |
|--|---|
| Authentication Attach ANY Periodicity | This parameter indicates if Selective Authentication periodicity for Attach procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Attach ANY Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Attach procedures. |
| Authentication Attach Inter-rat ANY (UMTS/GPRS/EUTRAN) Frequency | This parameter indicates if Selective Authentication frequency for Attach during Inter-RAT procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Attach Inter-rat ANY (UMTS/GPRS/EUTRAN) Frequency Value | Displays the value of the configured Selective Authentication Frequency for Attach during Inter-RAT procedures. |
| Authentication Attach Inter-rat ANY Periodicity | This parameter indicates if Selective Authentication periodicity for Attach during Inter-RAT procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Attach Inter-rat ANY Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Attach during Inter-RAT procedures. |
| Authentication Service Req Frequency | This parameter indicates if Selective Authentication frequency for Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Frequency Value | Displays the value of the configured Selective Authentication Frequency for Service Requests. |
| Authentication Service Req Periodicity | This parameter indicates if Selective Authentication periodicity for Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Service Requests. |
| Authentication Service Req Data Frequency | This parameter indicates if Selective Authentication frequency for Data Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Data Frequency Value | Displays the value of the configured Selective Authentication Frequency for Data Service Requests. |
| Authentication Service Req Data Periodicity | This parameter indicates if Selective Authentication periodicity for Data Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |

| Field | Description |
|--|--|
| Authentication Service Req Data Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Data Service Requests. |
| Authentication Service Req Signaling Frequency | This parameter indicates if Selective Authentication frequency for Signaling Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Signaling Frequency Value | Displays the value of the configured Selective Authentication Frequency for Signaling Service Requests. |
| Authentication Service Req Signaling Periodicity | This parameter indicates if Selective Authentication periodicity for Signaling Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Signaling Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Signaling Service Requests. |
| Authentication Service Req Page Response Frequency | This parameter indicates if Selective Authentication frequency for Page Response Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Page Response Frequency Value | Displays the value of the configured Selective Authentication Frequency for Page Response Service Requests. |
| Authentication Service Req Page Response Periodicity | This parameter indicates if Selective Authentication periodicity for Page Response Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Service Req Page Response Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Page Response Service Requests. |
| Authentication TAU Frequency | This parameter indicates if Selective Authentication frequency for TAU Procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Frequency Value | Displays the value of the configured Selective Authentication Frequency for TAU Procedures. |
| Authentication TAU Periodicity | This parameter indicates if Selective Authentication periodicity for TAU Procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for TAU Procedures. |

| Field | Description |
|--|---|
| Authentication Inter-RAT TAU Frequency | This parameter indicates if Selective Authentication frequency for TAU during Inter-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Frequency Value | Displays the value of the configured Selective Authentication Frequency for TAU during Inter-RAT procedures. |
| Authentication TAU Inter-rat Periodicity | This parameter indicates if Selective Authentication periodicity for TAU during Inter-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Inter-rat Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for TAU during Inter-RAT procedures. |
| Authentication Intra-RAT TAU Frequency | This parameter indicates if Selective Authentication frequency for TAU during Intra-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Intra-RAT TAU Frequency Value | Displays the value of the configured Selective Authentication Frequency for TAU during Intra-RAT procedures. |
| Authentication TAU Intra-rat Periodicity | This parameter indicates if Selective Authentication periodicity for TAU during Intra-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Intra-rat Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for TAU during Intra-RAT procedures. |
| Authentication Normal TAU Frequency | This parameter indicates if Selective Authentication frequency for Normal TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication Normal TAU Frequency Value | Displays the value of the configured Selective Authentication Frequency for Normal TAU procedures. |
| Authentication TAU Normal Periodicity | This parameter indicates if Selective Authentication periodicity for Normal TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Normal Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Normal TAU procedures. |
| Authentication Periodic TAU Frequency | This parameter indicates if Selective Authentication frequency for Periodic TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |

| Field | Description |
|---|--|
| Authentication Periodic TAU Frequency Value | Displays the value of the configured Selective Authentication Frequency for Periodic TAU procedures. |
| Authentication TAU Periodic Periodicity | This parameter indicates if Selective Authentication periodicity for Periodic TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled". |
| Authentication TAU Periodic Periodicity Value | Displays the value of the configured Selective Authentication Periodicity for Periodic TAU procedures. |
| Mapped SM Cause For Req APN not sup in current RAT and PLMN combination | Displays the mapped SM caused code for APN request not supported in current RAT and PLMN combination. |
| Cause Code Mapping | Displays the cause code mapping information. |
| APN not supported PLMN-RAT esm-proc | Displays the cause code configured for APN not supported PLMN-RAT esm-proc. |
| APN not supported PLMN-RAT Attach | Displays the cause code configured for APN not supported PLMN-RAT in attach requests. |
| APN not supported PLMN-RAT TAU | Displays the cause code configured for APN not supported PLMN-RAT in TAU requests. |
| Paging priority to be sent to eNodeB | If paging priority support is enabled this field displays the configured value of paging priority sent to eNodeB for CS paging. For example, if the paging priority value is set to "1", this field is displayed as "Enabled with value: 1". If paging priority support is disabled this field is displayed as "Disabled". |
| MPS CS priority | The MPS CS priority is displayed as either "Subscribed" or "None" based on the configuration. |
| MPS EPS priority | The MPS EPS priority is displayed as either "Subscribed" or "None" based on the configuration. |
| Paging priority to be sent to eNodeB for CS | Displayed as "Enabled" with value if paging-priority cs value is configured. |
| Paging priority mapping for CS | Displayed as "Enabled" with emlpp-priority to paging-priority mapping information if mapping is configured, otherwise it is displayed as "Disabled". |
| Paging priority mapping for EPS | Displayed as "Enabled" with ARP to paging-priority mapping information if mapping is configured, otherwise it is displayed as "Disabled". |
| Handover Restriction | Displayed as "Enabled" if HO restriction is configured, else it is displayed as "Disabled". |
| SCEF Service | Displays the name of the configured SCEF service. |

| Field | Description |
|--|---|
| Attach without PDN Support for WB-EUTRAN | Indicates whether Attach without PDN for WB-EUTRAN is enabled or disabled. |
| Attach without PDN Support for NB-IoT | Indicates whether Attach without PDN for NB-IoT is enabled or disabled. |
| IE Override: | |
| S6A Interface | Indicates whether the S6a interface is enabled or disabled. |
| Supported RAT Type AVP | Displays the configured RAT type AVP IE. |
| Extended DRX | Specifies the following eDRX parameters: <ul style="list-style-type: none"> • Paging Time Window • eDRX Cycle Length • Downlink Buffer Duration in DDN Ack • DL Buffering Suggested Packet Count in DDN Ack |
| CIoT Optimisation: | |
| CP-Optimisation | Indicates whether CP CIoT optimization is enabled or disabled. |
| Access-Type | If CP CIoT optimization is enabled, displays the access type based on the configuration as: NB-IoT, or both WB-EUTRAN and NB-IoT. If CP CIoT optimization is disabled, this field displays N/A. |
| Serving PLMN Rate Control | Indicates whether serving PLMN rate control for CP CIoT optimization is enabled or disabled. |
| UL Rate | Displays the maximum number of data NAS PDUs that the UE sends in uplink path per deci-hour (6 minutes). |
| DL Rate | Displays the maximum number of data NAS PDUs that the P-GW or SCEF sends in the downlink path to the UE per deci-hour (6 minutes). |
| Gtp Tunnel ECN Ingress Mode | Displays the mode of ECN configured for the GTP tunnel. |
| ESM-T3396 Timer | This fields displays "Not Configured" if the ESM T3396 timeout is not configured for any cause code. |
| If the ESM T3396 timeout is configured for a cause code, the following two fields display the configured values. | |
| Value for Cause Code UNKNOWN OR MISSING APN(27) | This fields displays the configured T3396 timeout value in seconds for cause code value 27. |
| Value for Cause Code INSUFFICIENT RESOURCES(26) | This fields displays the configured T3396 timeout value in seconds for cause code value 26. |

| Field | Description |
|------------------------------|---|
| SRVCC | |
| SRVCC Service | This fields displays the status of the SRVCC service, that is, if SRVCC handovers are authorized or unauthorized, in a roaming network. |
| IMS APN | Displays IMS APN is "Configured" or "Not Configured". |
| Access Policy | Displays the configured access-policy name. If access-policy is not associated with call-control profile, this field displays "Not Defined". |
| Sending Ue-Usage-Type in CSR | Enables the sending of mapped Ue-Usage to Dedicated Core Network Configuration. |

show call-control-profile full name



CHAPTER 21

show card

This chapter includes the **show card** command output tables.



Important

The outputs of **show card** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- [show card diag](#), on page 606
- [show card hardware \(ASR 5000\)](#), on page 608
- [show card hardware \(ASR 5500\)](#), on page 610
- [show card hardware \(VPC-DI\)](#), on page 618
- [show card info \(ASR 5000\)](#), on page 620
- [show card info \(ASR 5500\)](#), on page 624
- [show card info \(VPC-SI, VPC-DI\)](#), on page 628
- [show card mappings \(ASR 5000\)](#), on page 630
- [show card table](#), on page 631

show card diag

Table 150: show card diag Command Output Descriptions

| Field | Description |
|----------|---|
| Counters | <p>Displays boot counter information for the card. The following counters are reported:</p> <ul style="list-style-type: none"> • Successful warm boots: Warm boots occur upon a software reset of the card. • Successful cold boots: Cold boots occur when the card experiences a hardware reboot. • Total boot attempts: This is the sum of successful and unsuccessful warm and cold boots. If this number is not equal to the total number of successful warm boots and the number of successful cold boots, then boot failures have occurred. This situation may indicate a problem with this card that requires further investigation. • In Service Date: Timestamp indicating when this card was placed in service. <p>Each of the above counters provide a timestamp indicating the most recent occurrence.</p> <p>NOTE: Counters are <u>not</u> displayed for line card diagnostics.</p> |

| Field | Description |
|---|--|
| Status | <p>Status is reported for the following items:</p> <ul style="list-style-type: none"> • IDEEPROM Magic Number: Indicates whether or not the device map has been initialized. The ID EEPROM device stores hardware, diagnostic and software configuration data. • Boot Mode: Displays the current boot mode. – Normal (boot to StarOS, default mode), Extended diagnostics or Diagnostic CLI. • Card Diagnostics: Indicates the current status of the card's internal diagnostics. The two possible states are: Pass (all diagnostics passed) and Failed one or more diagnostics did not pass). • Current Failure: Indicates any failure that is currently being reported by this card. If no failures were detected, this item will display None. • Last Failure: Indicates the last failure reported by this card since its event log was last cleared. • Card Usable: Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled (the card is configured for use via software), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed. • Last Reset Cause: Indicates the cause for the last reset of this card. <p>Note: This field only appears if a card reset has occurred.</p> |
| Boot/Diag Log ASR 5000 only | <p>Displays the contents of the boot and diagnostics log.</p> <p>NOTE: The boot and diagnostic log contents are <u>not</u> displayed for line card diagnostics.</p> |
| Error Log ASR 5000 only | <p>Displays the contents of the error log.</p> <p>NOTE: The error log contents are <u>not</u> displayed for line card diagnostics.</p> |
| Current Environment Not displayed for VPC | <p>Displays the results for the following measurements:</p> <ul style="list-style-type: none"> • Temperature measurements: Indicates the current operating temperatures and provides the maximum safe temperature for comparison. • Voltage measurements: Indicates the current input status for the various DC sources and provides the acceptable upper and lower limits for comparison. |

show card hardware (ASR 5000)

Table 151: show card hardware Command Output Descriptions (ASR 5000)

| Field | Description |
|---------------------------------|---|
| Common to All Card Types | |
| Card <number> | Slot number of the specified card. |
| Card Type | Description of the card in the specified slot, for example "System Management Card". |
| Card Description | SMC, PSCx, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2, SPIO, RCC |
| Part Number | Legacy part number (xxx-xx-xxxx xx). |
| Serial Number | Legacy part number (alphanumeric string). |
| CLEI Code | Common Language Equipment Identifier (CLEI) code. |
| UDI Product ID | Unique Device Identifier (UDI) Product Identifier (PID). |
| UDI Version ID | UDI version. |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| UDI CLEI Code | UDI Common Language Equipment Identifier (CLEI) code. |
| UDI Top Assembly Number | UDI for top-level assembly. |
| UDI TAN Revision | UDI Top Assembly Number (TAN) revision level. |
| UDI Deviation Number | UDI deviation number (DEVNUM). |
| MAC Addresses | Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx. |
| Switch Fabric Modes | Mode type – "control plane" and/or "switch fabric". |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| System Management Card | |
| Compact Flash | Status of PCMCIA flash memory card, for example "Present". |

| Field | Description |
|--|--|
| Type | Memory capacity of the Compact Flash card. |
| Model | Operational card type. |
| Serial Number | Serial number of this Compact Flash card. |
| PCMCIA1 | Status of front panel Personal Computer Memory Card International Association (PCMCIA) card, for example "Not Present". |
| Hard Drive 1 | Status of this hard drive, for example "present". |
| Type | Drive capacity in Mbytes. |
| Model | Manufacturer and model number. |
| Serial Number | Serial number of the hard drive. |
| SRM | Status, Reset, and Monitoring firmware. |
| BIOS | Basic Input/Output System. |
| CIF FPGA | Chassis Information (CIF) Field Programmable Gate Array (FPGA) firmware. |
| CPU 0 Type/Memory | Socket: 0, <processor type>, <processor speed>. |
| CPU 0 DIMM-A1 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-B1 P/N | Dual In-line Memory Module part number. |
| CPU 0 CFE/Diags | Common Firmware Environment/Diagnostic firmware. |
| Packet Processing Card (PSC, PSC2, PSC3, PSCA, PPC) | |
| NPU Microcode | Firmware running on the Network Processing Unit (NPU). |
| Slave SCB | Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB). |
| PSR | Power, Status, and Reset firmware. |
| BIOS | Basic Input/Output System firmware. |
| DT FPGA, DT2 FPGA | Data Transport (DT) Field Programmable Gate Array (FPGA) firmware. |
| CPU 0 Type/Memory | Socket: 0, <processor type>, <processor speed>. Socket: 1, <processor type>, <processor speed>. Chipset: <components>. |
| CPU 0 DIMM-N0D0 P/N | Dual In-line Memory Module part number. |

| Field | Description |
|--|--|
| CPU 0 DIMM-N0D1 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 Type/Memory | <processor type> <processor speed> <memory in MB> |
| CPU 0 CFE/Diags | Common Firmware Environment/Diagnostic firmware. |
| Line Cards (SPIO, RCC, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2) | |
| Slave SCB | Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB). |
| FPGA | Field-Programmable Gate Array firmware. |
| SFP Info (Port 1 or 2) | Information about the Small Form-factor Pluggable (SFP) transceivers includes: Vendor Name, Vendor IEEE ID, P/N (part number), S/N (serial number, date). |

**Important**

The output of this command will also display other types of information relative to the CPUs and firmware running on the specific card types. This information varies based on the platform type.

show card hardware (ASR 5500)

Table 152: show card hardware Command Output Descriptions (ASR 5500)

| Field | Description |
|---------------------------------|--|
| Common to All Card Types | |
| Card <number> | Slot number of the specified card. |
| Card Type | Data Processing Card Data Processing Card 2 Management & 20x10Gb I/O Card Management 4x(10Gb&100Gb) I/O Card 2 System Status Card Fabric & 2x200GB Storage Card |
| Description | Card type – DPC, DPC2, MIO, MIO2, SSC, FSC. |

| Field | Description |
|-----------------------------------|---|
| Cisco Part Number | Cisco part number. |
| UDI Serial Number | Unique Device Identifier (UDI) serial number (alphanumeric string). |
| UDI Product ID | UDI Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| UDI Top Assem Num | UDI for top-level assembly. |
| Data Processing Card (DPC) | |
| Daughter Card #3 | Daughter card number. |
| Card Type | DPC CCK Daughter Card (crypto). |
| Description | DPC_CRYPT0_DC. |
| Starent Part Number | Legacy part number (xxx-xx-xxxx xx). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |
| CAF | Control and Availability FPGA firmware. |
| CPU 0 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 0 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C2D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C2D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 BIOS | Basic Input/Output System. |

| Field | Description |
|--------------------------------------|---|
| CPU 0 i82599 | Intel 10GbE Controller firmware. |
| CPU 0 i82574 | Intel Gigabit Ethernet Controller firmware. |
| CPU 0 CFE | Common Firmware Environment version. |
| CPU 1 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 1 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C2D2 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 BIOS | Basic Input/Output System. |
| CPU 1 i82599 | Intel 10 GbE Controller firmware. |
| CPU 1 i82574 | Intel Gigabit Controller firmware. |
| CPU 1 CFE | Common Firmware Environment version. |
| Data Processing Card 2 (DPC2) | |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF2 | Board Control FPGA DPC2 firmware. |
| CAF2 | Control and Availability FPGA DPC2 firmware. |
| CPU 0 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 0 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C2D0 P/N | Dual In-line Memory Module part number. |

| Field | Description |
|-----------------------|--|
| CPU 0 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 BIOS | Basic Input/Output System. |
| CPU 0 i82599 | Intel 10GbE Controller firmware. |
| CPU 0 i210 | Intel Gigabit Ethernet Controller firmware. |
| CPU 0 CFE Loaded | Common Firmware Environment version. |
| CPU 0 CFE ROM | Multiple CFE versions. |
| CPU 0 DH89XXCC | Intel PCI Express root port. |
| CPU 1 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 1 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C2D2 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 BIOS | Basic Input/Output System. |
| CPU 1 i82599 | Intel 10 GbE Controller firmware. |
| CPU 1 i210 | Intel Gigabit Controller firmware. |
| CPU 1 CFE Loaded | Common Firmware Environment version. |
| CPU 1 CFE ROM | Multiple CFE versions. |
| CPU 1 DH89XXCC | Intel PCI Express root port. |
| CPU 2 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 2 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 2 DIMM-N0C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 2 DIMM-N0C2D2 P/N | Dual In-line Memory Module part number. |
| CPU 2 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 2 BIOS | Basic Input/Output System. |
| CPU 2 i82599 | Intel 10 GbE Controller firmware. |
| CPU 2 i210 | Intel Gigabit Controller firmware. |

| Field | Description |
|--------------------------------------|---|
| CPU 2 CFE Loaded | Common Firmware Environment version. |
| CPU 2 CFE ROM | Multiple CFE versions. |
| CPU 2 DH89XXCC | Intel PCI Express root port. |
| Management Input/Output (MIO) | |
| Daughter Card #<number> | Daughter card number. |
| Card Type | MIO 10x10Gb Daughter Card. MIO CCK Daughter Card (crypto). |
| Description | MDC MIO_CRYPT0_DC |
| Starent Part Number | Legacy part number (xxx-xx-xxxx xx) |
| Cisco Part Number | Cisco part number. |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| Midplane: | Chassis EPROM information. |
| Card Type | Midplane EPROM Card. |
| MAC Addresses | Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx. |
| MEC: | Midplane EEPROM Card. |
| Description | MEC. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| UDI Product ID | UDI Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| Midplane: | |
| Description | Midplane. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| Chassis: | |

| Field | Description |
|---|---|
| Description | Chassis. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| UDI Product ID | Cisco Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| UDI Top Assem Num | UDI for top-level assembly. |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| SDHC Flash | Secure Digital High Capacity on-board flash memory (/flash drive). |
| Type | Disk capacity in Mbytes. |
| Model | Generic-UltraFastMedia. |
| USB 1 | Status of front panel USB port, for example. "Not Present". |
| SFP+ Module On Port <number>: | Information on the SFP+ transceiver in the specified port (10 through 29). |
| Transceiver Info | SFP+ transceiver type. |
| Vendor Info | Vendor Name and Vendor IEEE ID. |
| Part Info | Cisco PID and serial number. |
| Management Input/Output version 2 (MIO2) | |
| Daughter Card #<number> | Daughter card number. |
| Card Type | MIO 2x(10Gb&100Gb) Daughter Card 2 |
| Description | MDC |
| Cisco Part Number | Cisco part number. |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| Midplane: | Chassis EPROM information. |

| Field | Description |
|--------------------|---|
| Card Type | Midplane EPROM Card. |
| MAC Addresses | Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx. |
| MEC: | Midplane EEPROM Card. |
| Description | MEC. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| UDI Product ID | UDI Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| Midplane: | |
| Description | Midplane. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| Chassis: | |
| Description | Chassis. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| UDI Product ID | Cisco Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| UDI Top Assem Num | UDI for top-level assembly. |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| SDHC Flash | Secure Digital High Capacity on-board flash memory (/flash drive). |
| Type | Disk capacity in Mbytes. |

| Field | Description |
|---------------------------------|--|
| Model | Generic-UltraFastMedia. |
| USB 1 | Status of front panel USB port, for example. "Not Present". |
| SFP+ Module On Port <number>: | Information on the SFP+ transceiver in the specified port (10 through 29). |
| Transceiver Info | SFP+ transceiver type. |
| Vendor Info | Vendor Name and Vendor IEEE ID. |
| Part Info | Cisco PID and serial number. |
| BCF2 | Board Control FPGA DPC2 firmware. |
| CAF2 | Control and Availability FPGA DPC2 firmware. |
| DC F | Daughter Card Firmware |
| CPU 0 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 0 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C2D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 BIOS | Basic Input/Output System. |
| CPU 0 i82599 | Intel 10GbE Controller. |
| CPU 0 i82574 | Intel Gigabit Ethernet Controller. |
| CPU 0 m88se9485 | Marvell Serial Attached SCSI (SAS) I/O Controller |
| CPU 0 CFE Loaded | Common Firmware Environment version. |
| CPU 0 CFE ROM | Multiple CFE versions. |
| CPU 0 DH89XXCC | Intel PCI Express root port. |
| System Status Card (SSC) | |

| Field | Description |
|--------------------------------------|---|
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |
| Fabric and Storage Card (FSC) | |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |

show card hardware (VPC-DI)

In a VPC-DI instance, card numbers correspond to the virtual slot numbers assigned to the virtual machines (VMs) that run StarOS within the virtual chassis created by hypervisor templates.

Table 153: show card hardware Command Output Descriptions (VPC-DI)

| Field | Description |
|--|---|
| Control Function and Service Function Cards | |
| Card <number> | Virtual slot number of the specified card. Slots 1 and 2 = CF; Slots 3 – 48 = SF. |
| Card Type | Control Function Virtual Card or 2-Port Service Function Virtual Card. |
| CPU Packages | Number of vCPUs. |
| CPU nodes | Number of CPU nodes. |
| CPU Cores/Threads | Number of cores/threads. |
| Memory | vMemory in Megabytes |

| Field | Description |
|---------------------------|---|
| Platform | Hypervisor type. |
| CFE/Diags | Common Firmware Environment/Diagnostic firmware. |
| Network Interfaces | |
| cpeth0 | VPC-DI network communication port. |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| loeth0 | CF only: LOCAL management port (Console). |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. (alphanumeric string) |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| port_slot_port | SF only: Service port. |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. (alphanumeric string) |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| Storage Devices | |
| Virtual Flash | Indicates whether or not the virtual /flash drive is Present. |
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |

| Field | Description |
|--------------------|--|
| Hard Drive 1 | Indicates whether virtual Hard Drive 1 is Present. |
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |
| Hard Drive 2 | Indicates whether virtual Hard Drive 2 is Present. |
| USB 1 | Indicates whether virtual USB port 1 is Present (must be configured via hypervisor). |
| USB 2 | Indicates whether virtual USB port 2 is Present (must be configured via hypervisor). |
| CDROM 1 | Indicates whether virtual a CDROM is Present (must be configured via hypervisor). |
| Type | CDROM drive type (alphanumeric string). |
| Model | CDROM drive model (alphanumeric string). |
| Card Programmables | <p>Indicates if the software on any of the programmable components on the card is not at the current revision.</p> <p>"up to date" – all software is current</p> <p>"out of date" – identifies one or more components do not have the most current software.</p> <p>"experimental/unreleased" – one or more components have experimental or unreleased software.</p> |

show card info (ASR 5000)

Table 154: show card info (ASR 5000) Command Output Descriptions

| Field | Applicable Card(s) | Description |
|-----------|--------------------|---|
| Slot Type | All | Displays the acronym for the card type. |
| Card Type | All | Indicates the type of card installed. |

| Field | Applicable Card(s) | Description |
|----------------------|---|--|
| Operational State | All | <p>Displays the operational state of the card. The possible operational states are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked}. Refer to the <i>ASR 5000 Installation Guide</i> for additional information. |
| Desired Mode | Processing Cards, SPIOs and line cards only | Displays the configured mode of the card. Through software configuration the card could be placed into either the active or standby mode. |
| Last State Change | All | Displays the time of the last operational state change for the card. |
| Administrative State | All | Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed. |
| Card Lock | All | Displays whether or not the card's interlock switch is Locked or Unlocked. |
| Halt Issued | All | Displays whether or not this card was the target of a halt command issued by an administrator or operator. The halt command stops all tasks and processes running on the card. If the card has been halted, a Yes will be displayed. If not, a No will be displayed. |
| Reboot Pending | All | Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed. |

| Field | Applicable Card(s) | Description |
|-------------------------|--------------------|--|
| Upgrade In Progress | SPC/SMC, PSCx | <p>Indicates whether an upgrade is in progress.</p> <p>The following operations are not allowed while a card is upgrading:</p> <ul style="list-style-type: none"> • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade <p>Level unlock operations are ignored while a card is upgrading.</p> |
| Card Usable | All | <p>Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled (the SPC/SMC can communicate with it), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed.</p> |
| Single Point of Failure | All | <p>Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed.</p> |
| Attachments | SPC/SMC, PSCx | <p>Displays the slot number and card type(s) that this card is associated with. For example, if this information is being displayed for a Processing Card, then the line card(s) that the Processing Card is associated with will be displayed.</p> |
| Temperature | All | <p>Indicates the current operating temperature and provides the maximum safe temperature for comparison.</p> |

| Field | Applicable Card(s) | Description |
|-----------|--------------------|--|
| Voltage | All | <p>Indicates whether the power levels that the card is receiving are within acceptable limits.</p> <p>Every card in the system has at least two power inputs. If all of the power inputs are within specification, a Good will be displayed. If even one of these inputs is out of the acceptable range, then a Bad ***ALARM*** will be displayed.</p> |
| Card LEDs | All | <p>Displays the state of the Run/Fail, Active, and Standby light emitting diodes (LEDs) on the front panels of each of the cards. The LEDs will be displayed as either Green, Red, or Off.</p> <ul style="list-style-type: none"> • Run/Fail LED: Green is normal, Red or Off indicate a problem. <p>NOTE: If the Run/Fail LED is either Red or Off, refer to the <i>ASR 5000 System Administration Guide</i> for information on troubleshooting the problem.</p> <ul style="list-style-type: none"> • Active: Green indicates that the card is in active mode. Off indicates that the card is in standby mode. • Standby LED: Green indicates that the card is in standby mode. Off indicates that the card is in active mode. |

| Field | Applicable Card(s) | Description |
|-----------------|--------------------|---|
| System LEDs | SPC/SMC | <p>Displays the state of the Status and Service LEDs on the SPC/SMC. The Status LED will be displayed as either Green, Red, or Off. The Service LED will be displayed as either Amber, or Off.</p> <ul style="list-style-type: none"> • Status LED: Green is normal, Red or Off indicate a problem. <p>NOTE: If the Run/Fail LED is either Red or Off, refer to <i>ASR 5000 System Administration Guide</i> for information on troubleshooting the problem.</p> <ul style="list-style-type: none"> • Service LED: Amber indicates that maintenance is needed. Off indicates that no maintenance is necessary. <p>NOTE: If the Status LED is Amber, refer to <i>ASR 5000 System Administration Guide</i> for information on troubleshooting the problem.</p> |
| CPU 0 through 3 | SMC, PSCx | Displays how the CPUs on the card are being used. |

show card info (ASR 5500)

Table 155: show card info (ASR 5500) Command Output Descriptions

| Field | Applicable Card(s) | Description |
|----------------|--------------------|---|
| Slot Type | All | Displays the acronym for the card type. |
| Card Type | All | Indicates the type of card installed. |
| Daughter Cards | MIO/UMIO/MIO2 | Lists the number of daughter cards installed, for example "DC1, DC2". |

| Field | Applicable Card(s) | Description |
|----------------------|----------------------|--|
| Operational State | All | <p>Displays the operational state of the card. The possible operational states are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked}. Refer to the <i>ASR 5500 Installation Guide</i> for additional information. |
| Desired Mode | DPC/UDPC, DPC2/UDPC2 | Displays the configured mode of the card. Through software configuration the card could be placed into either the active or standby mode. |
| Last State Change | All | Displays the time of the last operational state change for the card. |
| Administrative State | All | Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed. |
| Card Lock | All | Displays whether or not the card's interlock switch is Locked or Unlocked. |
| Halt Issued | All | Displays whether or not this card was the target of a halt command issued by an administrator or operator. The halt command stops all tasks and processes running on the card. If the card has been halted, a Yes will be displayed. If not, a No will be displayed. |
| Reboot Pending | All | Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed. |

| Field | Applicable Card(s) | Description |
|-------------------------|-------------------------------------|--|
| Upgrade In Progress | MIO/UMIO/MIO2, DPC/UPDC, DPC2/UDPC2 | <p>Indicates whether an upgrade is in progress.</p> <p>The following operations are not allowed while a card is upgrading:</p> <ul style="list-style-type: none"> • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade <p>Level unlock operations are ignored while a card is upgrading.</p> |
| Session Busy-Out | DPC/UDPC, DPC2/UDPC2 | Indicates whether a busy-out command has been initiated. Busy-out moves processes from the source DPC/UDPC to the destination DPC/UDPC, or disables the DPC/UDPC from accepting any new calls. |
| Card Usable | MIO/UMIO/MIO2 | Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled MIO/UMIO can communicate with it), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed. |
| Single Point of Failure | All | Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed. |
| Temperature | All | Indicates relative operating temperature. |
| Voltages | All | <p>Indicates whether the power levels that the card is receiving are within acceptable limits.</p> <p>Every card in the system has at least two power inputs. If all of the power inputs are within specification, a Good will be displayed. If even one of these inputs is out of the acceptable range, then a Bad ***ALARM*** will be displayed.</p> |

| Field | Applicable Card(s) | Description |
|-----------|--------------------|---|
| Card LEDs | All | <p>Displays the state of the Run/Fail, Active and Redundancy light emitting diodes (LEDs) on the front panels of each of the cards.</p> <ul style="list-style-type: none"> • Run/Fail LED: Green is normal, Red or Off indicate a problem. • Active: Green indicates that the software is loaded or is being loaded (blinking) on the card. • Redundancy: Green indicates that the card is in standby mode. <p>NOTE: If the Run/Fail LED is either Red or Off, refer to <i>ASR 5500 System Administration Guide</i> for information on troubleshooting the problem.</p> <p>Refer to the <i>ASR 5500 Installation Guide</i> for additional information.</p> |
| Card LEDs | MIO/UMIO/MIO2 | <p>The following LEDs appear on the MIO/UMIO only:</p> <ul style="list-style-type: none"> • Master: Green indicates that the card is in Active mode. • Busy: Green indicates that the card is accessing the RAID solid state drives on the FSCs. |
| Card LEDs | FSC | <p>The following LEDs appear on the FSC only:</p> <ul style="list-style-type: none"> • Drive 1 Activity and Drive 2 Activity: Indicate that the RAID solid state drives are being accessed by the MIO/UMIO. |

| Field | Applicable Card(s) | Description |
|--------------|-------------------------------------|--|
| Card LEDs | SSC | <p>The following LEDs appear on the SSC only:</p> <ul style="list-style-type: none"> • System Status: Red indicates the that there is a loss of service somewhere in the system. For example, the system could not locate a a valid software image at boot-up, or a high temperature condition exists. • System Service: Illuminates amber to indicate that the system has experienced a hardware component failure. |
| CPU 0, CPU 1 | MIO/UMIO/MIO2, DPC/UDPC, DPC2/UDPC2 | Displays whether an Error ID Log or Boot Progress Log is present for the CPU. |

show card info (VPC-SI, VPC-DI)

Table 156: show card info (VPC-SI, VPC-DI) Command Output Descriptions

| Field | Applicable Card(s) | Description |
|-------------------|--------------------|--|
| Slot Type | Virtual | Displays the acronym for the card type. |
| Card Type | Virtual | Indicates the type of card installed. |
| Operational State | Virtual | <p>Displays the operational state of the card. The possible operational states are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked). |

| Field | Applicable Card(s) | Description |
|---|--------------------|--|
| Redundant With VPC-DI CF only | Virtual | Indicates with which slot this CF maintains 1:1 redundancy. |
| Last State Change | Virtual | Displays the time of the last operational state change for the card. |
| Administrative State | Virtual | Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed. |
| Card Lock | Virtual | Displays whether or not the card's interlock switch is Locked or Unlocked. |
| Reboot Pending | Virtual | Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed. |
| Upgrade In Progress | Virtual | Indicates whether an upgrade is in progress. The following operations are not allowed while a card is upgrading: <ul style="list-style-type: none"> • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade Level unlock operations are ignored while a card is upgrading. |
| Session Busy-Out Not supported for VPC-DI, CF | Virtual | Indicates whether a busy-out command has been initiated (Enabled or Disabled). |
| Card Usable | Virtual | Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled, and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed. |
| Single Point of Failure | Virtual | Displays whether or not the component is a single point of failure (SPOF) in the system. Not applicable for virtual cards. |

| Field | Applicable Card(s) | Description |
|-----------|--------------------|---|
| Card LEDs | Virtual | Not displayed for virtual cards. |
| CPU 0 | Virtual | Displays how the CPU on the card is being used. |

show card mappings (ASR 5000)

Table 157: show card mappings Command Output Descriptions (ASR 5000)

| Field | Description |
|--------------------------|--|
| Slot (left-most column) | Displays the chassis slot number and the type of line card installed. |
| Mapping | <p>Displays the mapping or communication path from the line card to the application card. The possible mappings are:</p> <ul style="list-style-type: none"> • Direct: The line card is operating in conjunction with the application card installed directly in front of it. • Cross: The SPIO installed in slot 24 is operating in conjunction with the SMC installed in slot 9 or the SPIO in slot 25 is operating in conjunction with the SMC in slot 8. <p>NOTE: Cross mappings only occur if the SPC/SMC that the SPIO was formerly operating behind became disabled (either automatically due to an error, or through manual configuration).</p> <ul style="list-style-type: none"> • RCC 40: A line card (non-SPIO) installed in chassis slots 17 through 23 or 26 through 32 is operating in conjunction with a Processing Card installed in a slot that is not directly in front via the RCC in slot 40. • RCC 41: A line card (non-SPIO) installed in chassis slots 33 through 39 or 42 through 48 is operating in conjunction with a Processing Card installed in a slot that is not directly in front via the RCC in slot 41. <p>NOTE: RCC 40 and RCC 41 mappings will only occur if the Processing Card that the line card was formerly operating behind became disabled (either automatically due to an error, or through manual configuration).</p> |
| Slot (right-most column) | Displays the chassis slot number and the type of application card installed. |

show card table

Table 158: show card table Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| Slot | Displays the chassis slot number and card type acronym. |
| Card Type | Displays the type of card installed. |
| Oper State | <p>Displays the operational state of the card. The possible operational states are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that it is not completely installed (such as, the card interlock switch is not locked). Refer to the <i>Installation Guide</i> for additional information. |
| SPOF | Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed. |
| Attach ASR 5000 only | <p>This column is valid only for the ASR 5000 platform. It displays the line card that the Processing Cards and SMCs are using for network access.</p> <p>This column will only be populated for the RCCs in the event that tasks and processes were migrated from an active Processing Card to a standby Processing Card. The RCC creates a path from the standby Processing Card to the line cards.</p> |



CHAPTER 22

show cdr

This chapter includes the **show cdr** command output tables.

- [show cdr statistics, on page 633](#)
- [show cdr file-space-usage, on page 636](#)

show cdr statistics

Table 159: show cdr statistics Command Output Descriptions

| Field | Description |
|------------------------------------|--|
| EDR-UDR file Statistics | |
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Overall Statistics | |
| Files rotated | Total number of EDR and UDR files rotated. |
| Files rotated due to volume limit | Total number of EDR and UDR files rotated due to volume limit. |
| Files rotated due to time limit | Total number of EDR and UDR files rotated due to time limit. |
| Files rotated due to tariff-time | Total number of EDR and UDR files rotated due to tariff time. |
| Files rotated due to records limit | Total number of files rotated because of record limits. |
| File rotation failures | Total number of times rotation failed for EDR and UDR file. |
| Files deleted | Total number of EDR and UDR files deleted. |
| Records deleted | Total number of records deleted. |
| Records received | Total number of records received. |
| Files received | Total number of EDR and UDR files received by service. |
| Time of last file deletion | Date and time of last EDR/UDR file deleted. |
| Current open files | Total number of EDR and UDR files open. |

| Field | Description |
|---|--|
| REDR Specific Statistics | |
| REDR files rotated | Total number of REDR files rotated. |
| REDR files rotated due to volume limit | Total number of REDR files rotated due to volume limit. |
| REDR files rotated due to time limit | Total number of REDR files rotated due to time limit. |
| REDR files rotated due to records limit | Total number of REDR files rotated due to records limit. |
| REDR file rotation failures | Total number of rotation failed for REDR files. |
| REDR files deleted | Total number of REDR files deleted. |
| REDR records deleted | Total number of REDR records deleted. |
| REDR records received | Total number of REDR records received. |
| Current open REDR files | Total number of REDR files open. |
| Time of last REDR file deletion | Date and time of last REDR file deleted. |
| EDR Specific Statistics | |
| EDR files rotated | Total number of EDR files rotated. |
| EDR files rotated due to volume limit | Total number of EDR files rotated due to volume limit. |
| EDR files rotated due to time limit | Total number of EDR files rotated due to time limit. |
| EDR files rotated due to records limit | Total number of EDR files rotated due to records limit. |
| EDR file rotation failures | Total number of rotation failed for EDR files. |
| EDR files deleted | Total number of EDR files deleted. |
| EDR records deleted | Total number of EDR records deleted. |
| EDR records received | Total number of EDR records received. |
| Current open EDR files | Total number of EDR files open. |
| Time of last EDR file deletion | Date and time of last EDR file deleted. |
| UDR Specific Statistics | |
| UDR files rotated | Total number of UDR files rotated. |
| UDR files rotated due to volume limit | Total number of UDR files rotated due to volume limit. |
| UDR files rotated due to time limit | Total number of UDR files rotated due to time limit. |
| UDR files rotated due to records limit | Total number of UDR files rotated due to records limit. |
| UDR files rotation failures | Total number of rotation failed for UDR file. |

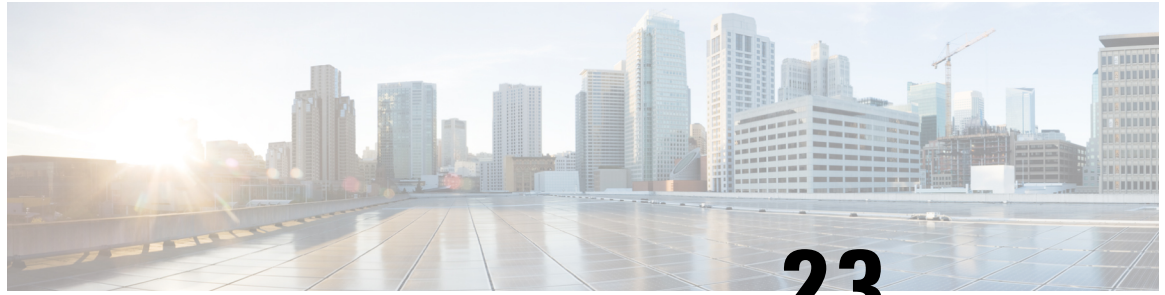
| Field | Description |
|--|--|
| UDR files deleted | Total number of UDR files deleted. |
| UDR records deleted | Total number of UDR records deleted. |
| UDR records received | Total number of UDR records received. |
| Current open UDR files | Total number of UDR files open. |
| Time of last UDR file deletion | Date and time of last UDR file deletion. |
| UDR-EDR-REDR PUSH Statistics | |
| Overall Statistics | |
| Primary Server Statistics | |
| Secondary Server Statistics | |
| Successful File Transfers | Total number of successful file transfers. |
| Failed File Transfers | Total number of failed file transfers. |
| Num of times PUSH initiated | Total number of times an EDR/UDR push attempt was initiated. |
| Num of times PUSH Failed | Total number of times an EDR/UDR push attempt failed. |
| Num of times PUSH cancelled due to HD failure | Total number of times EDR/UDR push was cancelled due to hard disk failures. |
| Num of periodic PUSH | Total number of periodic push. |
| Num of manual PUSH | Total number of manual push. |
| Current status of PUSH | Indicates the current status of push – Running/Not Running. |
| Last completed PUSH time | The date and time the last push completed. |
| Num of file Pend transfer | Total number of EDR/UDR files that are present in the <i>/records/</i> directory waiting to be transferred to the remote server. |
| Num of file Queued transfer | Total number of EDR/UDR files that are currently queued to transfer to the remote server. |
| Diameter-hdd-module Record Specific Statistics | |
| Diameter-hdd-module files rotated | Total number of Diameter files rotated. |
| Diameter-hdd-module files rotated due to volume limit | Total number of Diameter files rotated due to volume limit. |
| Diameter-hdd-module files rotated due to time limit | Total number of Diameter files rotated due to time limit. |
| Diameter-hdd-module files rotated due to tariff-time | Total number of Diameter files rotated due to tariff time. |
| Diameter-hdd-module files rotated due to records limit | Total number of Diameter files rotated due to records limit. |

| Field | Description |
|--|---|
| Diameter-hdd-module file rotation failures | Total number of rotation failed for Diameter files. |
| Diameter-hdd-module files deleted | Total number of Diameter files deleted. |
| Diameter-hdd-module records deleted | Total number of Diameter records deleted. |
| Diameter-hdd-module records received | Total number of Diameter records received by service. |
| Current open Diameter-hdd-module files | Total number of Diameter files open. |
| Time of last Diameter-hdd-module file deletion | The date and time of last Diameter file deleted. |

show cdr file-space-usage

Table 160: show cdr file-space-usage Command Output Descriptions

| Field | Description |
|------------------------------------|--|
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| UDR File Storage Limit | Displays the configured storage limit for UDR files. |
| UDR File Storage Usage | Displays the storage space utilized for the UDR files. |
| Percentage of UDR file store usage | Displays the percentage of storage space utilized for the UDR files. |
| EDR File Storage Limit | Displays the configured storage limit for EDR files. |
| EDR File Storage Usage | Displays the storage space utilized for the EDR files. |
| Percentage of EDR file store usage | Displays the percentage of storage space utilized for the EDR files. |



CHAPTER 23

show cell-trace-module

This chapter includes the **show cell-trace-module** command output tables.

- [show cell-trace-module file-space-usage](#), on page 637
- [show cell-trace-module statistics](#), on page 637

show cell-trace-module file-space-usage

Table 161: show cell-trace-module file-space-usage Command Output Descriptions

| Field | Description |
|---|---|
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Cell-Trace File Storage Limit | Displays the configured storage limit for cell trace files. |
| Cell-Trace File Storage Usage | Displays the storage space utilized for cell trace files. |
| Percentage of Cell-Trace file store usage | Displays the percentage of storage space utilized for the cell trace files. |

show cell-trace-module statistics

Table 162: show cell-trace-module statistics Command Output Descriptions

| Field | Description |
|--|--|
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Cell-Trace Specific Statistics | |
| Cell-Trace-module files rotated | Total number of cell trace files rotated. |
| Cell-Trace-module files rotated due to time limit | Total number of cell trace files rotated due to time limit. |
| Cell-Trace-module files rotated due to records limit | Total number of cell trace files rotated because of record limits. |

| Field | Description |
|---|--|
| Cell-Trace-module file rotation failures | Total number of times rotation failed for cell trace files. |
| Cell-Trace-module files deleted | Total number of cell trace files deleted. |
| Cell-Trace-module records deleted | Total number of cell trace records deleted. |
| Cell-Trace-module records received | Total number of cell trace records received. |
| Time of last Cell-Trace-module file deletion | Date and time of last cell trace file deleted. |
| Cell-Trace-module PUSH Statistics | |
| Successful File Transfers | Total number of successful file transfers. |
| Failed File Transfers | Total number of failed file transfers. |
| Num of times PUSH initiated | Total number of times a cell trace PUSH attempt was initiated. |
| Num of times PUSH Failed | Total number of times a cell trace PUSH attempt failed. |
| Num of times PUSH cancelled due to HD failure | Total number of times cell trace PUSH operation was cancelled due to hard disk failures. |
| Num of periodic PUSH | Total number of periodic PUSH operations. |
| Num of manual PUSH | Total number of manual PUSH operations. |
| Current status of PUSH | Indicates the current status of PUSH operation – Running/Not Running. |
| Last completed PUSH time | The date and time the last PUSH operation completed. |



CHAPTER 24

show certificate

This chapter includes the **show certificate** command output tables.

- [show certificate, on page 639](#)

show certificate

Table 163: show certificate Command Output Descriptions

| Field | Description |
|-------|---|
| Name | Certificate name |
| Data | Data output varies with content at the time of certificate creation but will include: X.509 version numberSerial numberAlgorithm typeIssuing authorityValid datesPublic key encrypted data |



CHAPTER 25

show cli

This chapter includes the **show cli** command output tables.

- [show cli configuration-monitor](#), on page 641
- [show cli history](#), on page 642
- [show cli session](#), on page 642

show cli configuration-monitor

Table 164: show cli configuration-monitor Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| config monitor enabled? | Indicates whether or not the CLI configuration monitor has been enabled via the Global Configuration mode cli configuration-monitor command (yes/no). |
| monitoring config changes? | Indicates whether configuration changes are being monitored (yes/no). |
| monitoring enabled/disabled | Indicates whether monitoring has been enabled or disabled. |
| cli config monitor instance | Indicates the number of active CLI configuration monitoring instances. |
| cli config monitor status | Indicates the current status of the configuration monitor. For example: "running - idle". |
| # config change traps sent | Indicates the number of starConfigurationUpdate SNMP traps that have been sent. The Global Configuration mode cli trap config-mode command must be enabled for traps to be sent. |
| seconds until next monitor | Indicates the number of seconds remaining in a 15-minute window before StarOS executes a show configuration checksum command. |

| Field | Description |
|-----------------------------|--|
| longest checksum time (sec) | Indicates in seconds the longest interval between configuration checksum changes. |
| time of last object change | Displays a timestamp associated with the last time a configuration object changed. |
| last config object changed | Displays the name of the changed object. |

show cli history

Table 165: show cli history Command Output Descriptions

| Field | Description |
|----------------|---|
| <Sequence No.> | Indicates the chronological sequence number for the listed CLI command. |
| <Timestamp> | Indicates day of week, date/time (MON DD hh:mm:ss TTT YYYY), CLI session (<cli:n>), context (name), context ID, user, mode and hostname. NOTE: This information only appears if the optional all keyword has been used with the show cli history command. |
| <Command Name> | Displays the name of the CLI command that was run. |

show cli session

Table 166: show cli session Command Output Descriptions

| Field | Description |
|--------------------|---|
| User | Displays user information related to CLI session login. |
| Session started at | Indicates session start time in the format: DoW, MMM, DD hh:mm:ss TTT YYYY. |
| Security Level: | Displays information about the user's StarOS administrative level and other privileges. |



CHAPTER 26

show chassis-throughput

This chapter includes the **show chassis-throughput** command output table.

- [show chassis-throughput, on page 643](#)

show chassis-throughput

Table 167: show chassis-throughput Command Output Descriptions

| Field | Description |
|--------------------|---|
| Chassis Throughput | Indicates the configured throughput of the chassis. |
| Card/Cpu | Indicates individual distribution of throughput on per card, per CPU basis. |
| Throughput | Indicates the throughput for the individual card/CPU. |



CHAPTER 27

show cloud

This chapter includes the **show cloud** command output tables.

The **show cloud** commands are only supported on virtualized platforms.

- [show cloud configuration, on page 645](#)
- [show cloud hardware, on page 646](#)
- [show cloud monitor, on page 646](#)

show cloud configuration

Table 168: show cloud configuration Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Card <n> | Card slot number. |
| Config Disk Parameters | Information about the current virtual disk configuration. |
| Local Params: | |
| CARDSLOT= | Card slot number. |
| CARDTYPE= | Hexadecimal card type identifier. |
| CPUID= | Associated CPU number. |
| IFTASK_CORES=50 | Core allocation on the SF card. |
| IFTASK_CRYPTO_CORES=30 | Core allocation for crypto on the SF card. |
| IFTASK_MCDMA_CORES=40 | Core allocation for mcdma on the SF card. |
| CONTROL_THREAD_ENABLE=1 | Control thread enabled. |
| MCDMA_THREAD_DISABLE=1 | MCDMA thread disabled. |

show cloud hardware

Table 169: show cloud hardware Command Output Descriptions

| Field | Description |
|-------------------|---|
| CPU Nodes | Number of CPU nodes. |
| CPU Cores/Threads | Number of cores/threads. |
| Memory | vMemory in Megabytes. |
| Hugepage size | Page size. |
| cpeth0: | VPC-DI network communication port. |
| Driver | Driver type. |
| loeth0: | CF only: LOCAL management port (Console). |
| Driver | Driver type. |
| portslot_port | SF only: Service port. |
| Driver | Driver type. |

show cloud monitor

Table 170: show cloud monitor di-network summary Command Output Descriptions

| Field | Description |
|--|--|
| The following fields appear for both summary and detail command options. | |
| Card <n> Test Results | Card slot number on which monitoring has been performed. |
| ToCard | Slot number of the card to which traffic was routed. |
| Health | "Bad" indicates a packet loss rate of larger than 1%. Otherwise the Health is "Good". |
| 5MinLoss | Percentage of packets lost for the past five minutes. |
| 60MinLoss | Percentage of packets lost for the past 60 minutes. |
| The following fields only appear for the detail command option. | |
| Dest | The reported statistics refer to the communication between this card and the card number specified when running the command. |
| TotalPkt | Total number of packets sent. |

| Field | Description |
|--|---|
| JumboPkt | Number of jumbo packets sent. |
| TotalDrops | Total number of jumbo and non-jumbo test packets that were dropped. |
| JumboDrops | Number of jumbo test packets that were dropped. |
| LongRTT | Longest Round Trip Time (RTT) in milliseconds. |
| AverageRTT | Average Round Trip Time (RTT) in milliseconds. |
| Last 10 RTT in milliseconds (starting from most current) | |

Table 171: show cloud monitor controlplane and dataplane Command Output Descriptions

| Field | Description |
|--|--|
| Cards | Indicates the card slot number that originated the monitoring request. |
| Src | Indicates the card slot number that originated the monitoring request. |
| Dst | Indicates the card slot number to which the request was directed. |
| 15 Second Interval / 5 Minute Interval / 60 Minute Interval (Control Plane only) | |
| Xmit | Indicates the total number of packets transmitted for a 15-second interval. |
| Recv | Indicates the total number of packets received for a 15-second interval. |
| Miss% | Indicates the drop/lost percentage. If insufficient data is collected for a complete interval, “-incomplete” is displayed. |
| 15 Second Interval / 5 Minute Interval / 60 Minute Interval (Data Plane only) | |
| Miss | Indicates the difference in the number of packets transmitted versus the number of packets received |
| Hit | Indicates the total number of packets received for a 15-second interval. |
| Pct | Indicates the drop/lost percentage. If insufficient data is collected for a complete interval, “-incomplete” is displayed. |



CHAPTER 28

show cmp

This chapter includes the **show cmp** command output tables. CMP refers to IPSec Certificate Management Protocol v2.



Important

The commands described in this chapter appear in the CLI for this release. However, they have not been qualified for use with any current Cisco StarOS gateway products.

- [show cmp history, on page 649](#)
- [show cmp outstanding-reg, on page 651](#)
- [show cmp statistics, on page 652](#)

show cmp history

Table 172: show cmp history Command Output Descriptions

| Field | Description |
|-----------|---|
| Trans id | Internal ID assigned to this Certificate Management Protocol v2 (CMPv2) transaction |
| Cert Name | CMPv2 certificate name |

| Field | Description |
|-----------|---|
| Src State | <p>Possible source states:</p> <ul style="list-style-type: none"> • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the CA. • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate. |
| Trigger | <p>Transaction trigger:</p> <ul style="list-style-type: none"> • cp (Enrollment Response) • cr (Enrollment Request) • ip (Initialize Response) • ir (Initialize Request) • kup (Update Response) • kur (Update Request) |

| Field | Description |
|-----------|--|
| Dst State | <p>Possible destination states:</p> <ul style="list-style-type: none"> • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the CA. • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate. |
| Status | Transaction status: OK or KEY_GEN_FAIL |

show cmp outstanding-reg

Table 173: show cmp outstanding-reg Command Output Descriptions

| Field | Description |
|-----------|-------------------------------|
| Cert name | Name of the CMPv2 certificate |

| Field | Description |
|---------------------|--|
| Current State | <p>Possible states:</p> <ul style="list-style-type: none"> • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the Certificate Authority (CA). • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate. |
| Outstanding Message | Possible messages: None and those states listed above |

show cmp statistics

Table 174: show cmp statistics Command Output Descriptions

| Field | Description |
|------------------------------|--|
| Protocol Statistics | |
| Initialize Request (ir) | Number of Initialize Request messages |
| Initialize Response (ip) | Number of Initialize Response messages |
| Enrollment Request (cr) | Number of Enrollment Request messages |
| Enrollment Response (cp) | Number of Enrollment Response messages |
| Manual Update Request (kur) | Number of manual Update Request messages |
| Manual Update Response (kup) | Number of manual Update Response messages |
| Polling Request | Number of Polling Request messages |
| Polling Response | Number of Polling Response messages |
| Certconf Message | Number of Certificate Configuration messages |

| Field | Description |
|------------------------------|--|
| Error Message | Number of error messages |
| Accepted Initial Request | Number of accepted Initial Request messages |
| Accepted Enrollment Request | Number of accepted Enrollment Request messages |
| Accepted Update Request | Number of accepted Update Request messages |
| Accepted Polling Request | Number of accepted Polling Request messages |
| Auto Update (kur) Triggered | Number of times an automatic certificate update was triggered |
| Parse Response - CA Reject | Number of times messages have received Reject response from the Certificate Authority (CA) |
| Pkiconf Message | Number of Public Key Infrastructure (PKI) Configuration messages received |
| Response Timeout | |
| Initialize Request (ir) | Number of Initialize Request timeouts |
| Enrollment Request (cr) | Number of Enrollment Request timeouts |
| Update Request (kur) | Number of Update Request timeouts |
| Certconf | Number of Certificate Configuration timeouts |
| PollReq | Number of Polling Request timeouts |
| Parse Failure | |
| Initialize Response (ip) | Number of Initialize Response parsing error messages |
| Enrollment Response (cp) | Number of Enrollment Response parsing error messages |
| Update Response (kup) | Number of Update Response parsing error messages |
| Pkiconf Message | Number of PKI Configuration parsing error messages |
| Polling Response | Number of Polling Response parsing error messages |
| Unexpected Response Msg | Number of Unexpected Response messages |
| Message Build Failure | |
| Initialize Request (ir) | Number of Initialize Request message build failures |
| Enrollment Request (cr) | Number of Enrollment Request message build failures |
| Update Request (kur) | Number of Update Request message build failures |
| Certconf Message | Number of Certificate Configuration build failures |
| Polling Request | Number of Polling Request message build failures |

| Field | Description |
|-----------------------------------|--|
| Internal Statistics | |
| TCP Socket Connection Failure | Number of TCP socket connection failures |
| Failed Key Pair Generation | Number of times a key pair failed to be generated |
| Certificate Validation Failure | Number of times a certificate validation failed |
| Certificate Storage Failure | Number of times a certificate failed to be stored |
| Certificate Configuration Failure | Number of times a certificate failed to be configured |
| DNS Host Failures | Number of DNS host failures |
| Other Internal Error | Number of other internal errors |
| Manual CMP Certificate Cleared | Number of times a CMP certificate was manually cleared |
| Redundancy Statistics | |
| Certificate Recovery Succeeded | Number of times a certificate was successfully recovered |
| Certificate Recovery Failed | Number of times a certificate failed to be recovered |



CHAPTER 29

show confdmgr

This chapter includes the **show confdmgr** command output tables. ConfD is the engine supporting the NETCONF protocol interface with the Cisco Network Service Orchestrator (NSO) and Elastic Services Controller (ESC).

- [show confdmgr](#), on page 655
- [show confdmgr subscriptions](#), on page 657

show confdmgr

Table 175: show confdmgr Command Output Descriptions

| Field | Description |
|--------------------|--|
| State Information | |
| State | Indicates current state of the confdmgr procllet: Starting, Started, Stopped. |
| Subscriptions | Indicates configuration points defined in the Yang model for which confdmgr wants to be notified when a change occurs. |
| Last successful id | ID number for the last successful request instance. |
| Last failed id | ID number for the last failed request instance. |
| Autosave url | URL specified by the NETCONF Protocol Configuration mode autosave-config command. Note This command was made obsolete in 21.2; this field is no longer displayed in 21.2 and higher releases. |
| Username | Username specified by the NETCONF Protocol Configuration mode confd-user command. |
| Bulkstats | Displays whether event bulkstats collection and reporting on the REST interface is enabled or disabled. |

| Field | Description |
|--|---|
| Kpi interval | Displays the time interval in seconds for gathering NSLB Key Performance Indicator (KPI) information. If set to 0, this functionality is disabled. |
| Event notification level | Displays the configured severity level of StarOS events to be sent out as NETCONF notifications: critical (1), error (2), warning (3), unusual (4), info (5). This level dictates the lowest event severity level that results in a notification. |
| SNMP notifications | Displays whether SNMP alert and alarm reporting via NETCONF is enabled or disabled. |
| REST interface authentication | Displays the certificate verification done on client interfaces: none, peer, or peer-fail. |
| REST interface certificate | Displays the name of the certificate. |
| REST interface host name | If configured, displays the host name the web server will serve. If configured, mandates the web server to only service requests whose Host field matches this configured host name. Otherwise displays "Not configured". |
| Interface / Status / Port The current status (Enabled/Disabled) and configured port number for the NETCONF and REST interfaces. | |
| Statistics | |
| Triggers | Number of times confdmgr has requested ConfD to dump the CDB contents back into confdmgr which results in a config synchronization by SCT (Shared configuration Task). |
| Replays | Number of times a transaction has been replayed. A replay is initiated if, upon startup, the last successful transaction ID in confdmgr does not match that of ConfD. This could occur, for example, if confdmgr task restarted when processing the notification for a configuration transaction. |
| Notifications | Number of times ConfD has sent a configuration update to confdmgr. For example, this can occur as the result of a "commit" via confd_cli or during a trigger event. |
| Notification failures | Number of times an update received from ConfD was not processed successfully. The number of successes and failures should always equal the total number of notifications. |

| Field | Description |
|-------------------------------|---|
| Trigger failures | Number of times a CDB dump to confdmgr failed. |
| Replay failures | Number of times an attempt to replay a transaction failed. |
| NETCONF notification failures | Number of times an attempt to issue a NETCONF notification failed. |
| Unexpected failures | Number of times an unexpected condition was encountered. An error is generated for each case. |
| Successful notifications | Number of times an update received from ConfD was successfully processed. Note This field was deprecated in 21.2. |

show confdmgr subscriptions

Table 176: show confdmgr subscriptions Command Output Descriptions

| Field | Description |
|---------------|---|
| Subscriptions | |
| Path | Pathname for configuration points defined in the Yang model for which confdmgr wants to be notified when a change occurs. |
| Index | Assigned index number |
| Namespace | staros |



CHAPTER 30

show configuration

This chapter includes the **show configuration** command output tables.

- [show configuration iftask boot-options](#), on page 659
- [show configuration iftask boot-options verbose](#), on page 660

show configuration iftask boot-options

Table 177: show config iftask boot-options Command Output Descriptions

| Field | | Description |
|----------|---------------|---|
| priority | | Indicates the priority for the configuration to be applied. |
| | cdrom | Indicates CDRom configuration as priority. |
| | cli | Indicates CLI configuration as priority. |
| sfc | | Indicates startup configuration parameters for Service Function card. |
| | cores | Indicates percentage of iftask-cores in the virtual card. |
| | crypto | Indicates percentage of crypto cores out of the iftask-cores in the virtual card. |
| | mc dma | Indicates percentage of mc dma cores out of the iftask-cores in the virtual card. |
| sfc | | |
| | thread-enable | Indicates that thread-enable flag is on. |
| | control | Indicates control-thread is enabled. |
| | mc dma | Indicates mc dma-thread is enabled. |

show configuration iftask boot-options verbose

Table 178: show config iftask boot-options Command Output Descriptions

| Field | | Description |
|----------|---------------|---|
| priority | | Indicates the priority for the configuration to be applied. |
| | cdrom | Indicates CDROM configuration as priority. |
| | cli | Indicates CLI configuration as priority. |
| sfc | | Indicates startup configuration parameters for Service Function card. |
| | cores | Indicates percentage of iftask-cores in the virtual card. |
| | crypto | Indicates percentage of crypto cores out of the iftask-cores in the virtual card. |
| | mc dma | Indicates percentage of mc dma cores out of the iftask-cores in the virtual card. |
| sfc | | |
| | thread-enable | Indicates that thread-enable flag is on. |
| | control | Indicates control-thread is enabled. |
| | mc dma | Indicates mc dma-thread is enabled. |



CHAPTER 31

show congestion-control

This chapter includes the **show congestion-control** command output tables.

- [show congestion-control configuration, on page 661](#)
- [show congestion-control statistics al1mgr instance, on page 662](#)
- [show congestion-control statistics asngwmgr instance, on page 662](#)
- [show congestion-control statistics egtpinmgr, on page 663](#)
- [show congestion-control statistics mme full, on page 663](#)

show congestion-control configuration

Table 179: show congestion-control configuration Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| system cpu utilization | Displays the current congestion-control configuration. If the demuxmgr exclusion is configured while calculating system CPU utilization, then relevant data regarding exclusion is mentioned in the output. |
| system memory utilization | Displays the current congestion-control configuration. If the demuxmgr exclusion is configured while calculating system memory utilization, then relevant data regarding exclusion is mentioned in the output. |
| demuxmgr average cpu utilization | Displays the current congestion-control configuration. If the demuxmgr CPU utilization threshold is configured, then the respective facility is monitored for the CPU utilization. |
| connected-sessions-utilization | Displays the current congestion-control configuration. If the total connected session monitoring is configured, then the system wide connected session value is monitored. |

show congestion-control statistics a11mgr instance

Table 180: show congestion-control statistics a11mgr instance Command Output Descriptions

| Field | Description |
|------------------------------------|---|
| Current congestion status | The current congestion control state as "Cleared" or "Applied". |
| Congestion applied | Displays the number of times the system invoked a congestion control policy for the specified service type. |
| Congestion Control Resource Limits | Indicates the congestion control threshold that was triggered. For more information, refer to the congestion-control threshold command in the Global Configuration Mode chapter of the <i>Command Line Interface Reference</i> . |

show congestion-control statistics asngwmgr instance

Table 181: show congestion-control statistics asngwmgr instance Command Output Descriptions

| Field | Description |
|------------------------------------|---|
| current congestion status | The current congestion control state as "Cleared" or "Applied". |
| congestion applied | Displays the number of times the system invoked a congestion control policy for the specified service type. |
| congestion Control Resource Limits | Indicates the congestion control threshold that was triggered. For more information, refer to the congestion-control threshold command in the Global Configuration Mode chapter of the <i>Command Line Interface Reference</i> . |
| system cpu use exceeded | Indicates the number of time the ASNGW Manager exceeded the system CPU usage limit. |
| service cpu use exceeded | Indicates the number of time the ASNGW Manager exceeded the CPU usage limit specified for this service. |
| system memory use exceeded | Indicates the number of time the ASNGW Manager exceeded the allocated system memory usage limit. |
| port rx use exceeded | Indicates the number of time the ASNGW Manager exceeded the Rx port usage limit. |
| port tx use exceeded | Indicates the number of time the ASNGW Manager exceeded the Tx port usage limit. |
| port specific rx use exceeded | Indicates the number of time the ASNGW Manager exceeded the Rx port usage limit for a specific port number. |

| Field | Description |
|--|---|
| port specific tx use exceeded | Indicates the number of time the ASNGW Manager exceeded the Tx port usage limit for a specific port number. |
| max sess use exceeded | Indicates the number of time the ASNGW Manager exceeded the maximum session usage limit for a service. |
| license use exceeded | Indicates the number of time the ASNGW Manager exceeded the maximum license usage limit. |
| msg queue size use exceeded | Indicates the number of time the ASNGW Manager exceeded the message queue size usage. |
| msg queue wait time exceeded | Indicates the number of time the ASNGW Manager exceeded the message queue wait time. |
| license threshold exceeded | Indicates the number of time the ASNGW Manager exceeded the license threshold limit. |
| max sess threshold exceeded | Indicates the number of time the ASNGW Manager exceeded the maximum session threshold limit. |
| sessions disconnected due to overload disconnect | Indicates the total number of sessions disconnected due to overload. |

show congestion-control statistics egtpinmgr

Table 182: show congestion-control statistics egtpinmgr Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| demuxmgr cpu use | Displays the current congestion-control statistics. If a congestion policy is applied, then an entry is made for the resource types with congestion applied. |
| connected sess threshold exceeded | Displays the current congestion-control statistics. If there is a congestion applied, then an entry is made for the resource types with congestion applied. |

show congestion-control statistics mme full

Table 183: show congestion-control statistics mme full Command Output Descriptions

| Field | Description |
|--|--|
| Critical/Major/Minor Congestion Policy Action | This section provides statistics for the Critical, Major or Minor congestion policy actions that were triggered for the MME. |

| Field | Description |
|---------------------------------------|---|
| Congestion Policy Applied | Displays the number of times the system invoked a congestion control policy. |
| PS attaches Rejected/Dropped | Indicates the number of packet switched Attach requests that were rejected/dropped. |
| Combined attaches Rejected/Dropped | Indicates the number of Combined Attach requests that were rejected/dropped. |
| S1-Setup Rejected/Dropped | Indicates the number of S1-Setup attempts that were rejected/dropped. |
| Handover Rejected/Dropped | Indicates the number of handover attempts that were rejected/dropped. |
| Addn-pdn-connect Rejected/Dropped | Indicates the number of additional PDN context connection attempts that were rejected/dropped. |
| Addn-brr-connect Rejected/Dropped | Indicates the number of additional Bearer Resource Requests that were rejected/dropped. |
| Brr-ctxt-mod-request Rejected/Dropped | Indicates the number of Bearer Resource Context Modification Requests dropped or rejected during a congestion condition. |
| Service-Request Rejected/Dropped | Indicates the number of service requests that were rejected/dropped. |
| TAU-Request Rejected/Dropped | Indicates the number of TAU requests that were rejected/dropped. |
| S1AP Overload Start Sent | Indicates the number of S1AP Overload Start messages that were sent. |
| S1AP Overload Stop Sent | Indicates the number of S1AP Overload Stop messages that were sent. |
| Excluded Emergency Events | Indicates the number of emergency events that were excluded from the Congestion Control policy based on the configuration of the exclude-emergency-events command. These events were allowed to proceed during a congestion condition. |
| Excluded Voice Events | Indicates the number of voice calls that were excluded from the Congestion Control policy based on the configuration of the exclude-voice-events command. These calls were allowed to proceed when a congestion condition. |



CHAPTER 32

show connectedapps

This chapter describes the output of the **show connectedapps** command.

- [show connectedapps, on page 665](#)

show connectedapps

Table 184: show connectedapps Command Output Descriptions

| Field | Description |
|-----------------------|--|
| CA session userid | Username for the current CA session. |
| CA session password | Password for the current CA session. |
| CA session name | Name assigned to the current CA session. |
| CA session IP address | IP address of the current CA session |
| HA chassis mode | High Availability chassis mode: <ul style="list-style-type: none">• Inter – between ASR 9000 chassis• Intra – within an ASR 9000 VSM• Standalone – No HA (standalone VSM) |
| HA network mode | High Availability network mode: <ul style="list-style-type: none">• L2 – Layer 2• L3 – Layer 3• NA – Not Applicable (standalone VSM) |
| CA session Activation | YES (activated) or NO (not activated) |
| CA SRP Status | Current Session Recovery Protocol status (ICSR): <ul style="list-style-type: none">• INIT – Initializing• UP• DOWN |

| Field | Description |
|--------------|---|
| CA SRP State | Current Session Recovery Protocol state (ICSR): <ul style="list-style-type: none">• INIT – Initializing• UP• DOWN |



CHAPTER 33

show content-filtering

This chapter includes the **show content-filtering** command output tables.

- [show content-filtering category database](#), on page 667
- [show content-filtering category database all](#), on page 668
- [show content-filtering category database facility srdbmgr all](#), on page 669
- [show content-filtering category policy-id id](#), on page 670
- [show content-filtering category statistics](#), on page 671
- [show content-filtering category statistics facility srdbmgr all](#), on page 672
- [show content-filtering category url <url> policy-id <id> verbose](#), on page 673
- [show content-filtering server-group name](#), on page 674
- [show content-filtering server-group statistics](#), on page 674

show content-filtering category database

Table 185: show content-filtering category database active verbose Command Output Descriptions

| Field | Description |
|-----------------|---|
| Database Status | <p>Indicates latest status of rating databases. Possible status are:</p> <ul style="list-style-type: none">• OK: Indicates all SRDB tasks are running and database is good.• ERROR-Database Corrupt: Indicates all SRDB tasks are running and database is bad or corrupt.• ERROR-No database at specified pathname: Indicates all SRDB tasks are running and database is not available at specified path/location/directory.• MERGING: Displayed during merging of the incremental database with full OPTCMDB database.• LOADING: Displayed during loading of the database.• n/a: Indicates that specified database is not loaded and its status is unknown. |

| Field | Description |
|-------------------------|--|
| Path | Path specified to base location or folder for Static Rating Databases (SRDB). It may have one of the following flags: <ul style="list-style-type: none"> • *ACTIVE*: Indicates database is valid and good. • *NOT LODAED*: Indicates that there is an error in database. |
| Last Upgrade Status | Status of last attempt of rating database upgrade. Possible status are: <ul style="list-style-type: none"> • Successful: Displayed after the upgrade is completed successfully. • Failure: Displayed in case of failure system will rollback to previous database. • n/a: Displayed in case of first time loading of database. |
| Type | Type of SRDB with checksum. Type of SRDB may be Full or Incremental. |
| Version | Latest version status of SRDB. |
| Creation Time | Time of creation of SRDB in DAY MM DD HH:MM:SS YYYY format. |
| Hostname | Host server name where SRDB base directory existing. |
| Comment | User defined remarks/description about database. |
| Last Access Time | Date and time in DAY MM DD HH:MM:SS YYYY format when database was last accessed. |
| Last Modified Time | Date and time in DAY MM DD HH:MM:SS YYYY format when database was last modified. |
| Last Status Change Time | Date and time in DAY MM DD HH:MM:SS YYYY format when status of access time or modified time was changed. |

show content-filtering category database all

Table 186: show content-filtering category database all Command Output Descriptions

| Field | Description |
|--|-------------|
| Content Filtering Static Rating Databases: | |

| Field | Description |
|---------------------|---|
| Last Upgrade Status | Status of the last attempt of rating database upgrade. Possible statuses are: <ul style="list-style-type: none"> • Success: Displayed after the upgrade is completed successfully. • Failure: Displayed in case the full upgrade failed. System will rollback to previous database. • n/a: Displayed in case of first time loading of database. |
| Path | Path specified to base location or folder for Static Rating Databases (SRDB). It may have one of the following flags: <ul style="list-style-type: none"> • *ACTIVE*: to indicate database is valid and good. • *NOT LODAED*: to indicate that there is an error in database. |
| Database Status | Latest status of rating databases. Possible status are: <ul style="list-style-type: none"> • OK: Indicates all SRDB tasks are running and database is good. • ERROR-Database Corrupt: Indicates all SRDB tasks are running and database is bad or corrupt. • ERROR-No database at specified pathname: Indicates all SRDB tasks are running and database is not available at specified path/location/directory. • MERGING: Displayed during merging of the incremental database with full OPTCMDB database. • LOADING: Displayed during loading of the database. • n/a: Indicates that specified database is not loaded and its status is unknown. |

show content-filtering category database facility srdmgrp all

Table 187: show content-filtering category database facility srdmgrp all Command Output Descriptions

| Field | Description |
|--|--|
| Content Filtering SRDB Instance Based Database Configuration: | |
| SRDB Instance | Indicates the running Static Rating Database (SRDB) Manager instance number. |

| Field | Description |
|--|---|
| DB Load Status | Indicates the database load status. |
| DB Version | Indicates the version of loaded database. |
| Volume | Indicates the database volume number. |
| Number of URLs | Indicates the number of URLs available in specific volume of database. |
| Number of Blocks/Page | Indicates the average number of blocks per page rated in URLs available in specific volume of database. |
| The following indicate Dynamic Content Filtering statistics at SRDB level: | |
| Dynamic SRDB Instance | Indicates the running Dynamic SRDB Manager instance number. |
| RaterPkg Load Status | Indicates the Dynamic Rater Package load status: <ul style="list-style-type: none"> • Loaded • Not-loaded |
| Number of Model files | Indicates the number of model files (used for language detection and category recognition) available. |
| Standby Dynamic SRDB Instance | Indicates standby Dynamic SRDB instance number. |
| RaterPkg Load Status | Indicates the Dynamic Rater Package load status: <ul style="list-style-type: none"> • Loaded • Not-loaded |
| Number of Model files | Indicates the number of model files (used for language detection and category recognition) available. |

show content-filtering category policy-id id

Table 188: show content-filtering category policy-id Command Output Descriptions

| Field | Description |
|--------------------------------------|---|
| Service Name | The content filtering service name. |
| Content Filtering Policy | The content filtering policy ID, and description, if set. |
| Content filtering Categories: | |
| Category | Category of the content rated. |
| Priority | Priority of the CF Category in the CF Policy. |

| Field | Description |
|---------------------------|--|
| Action | Action taken for the indicated result of CF analysis. |
| Content Insert | The content string inserted in place of message returned from prohibited or restricted site or content server. |
| Redirect | The URL to redirect subscriber. |
| EDR | The EDR file format name to generate separate CF EDRs based on action and content category. |
| Timeout Action | The timeout end condition if rating cannot be performed. |
| Discarded-Flow-Content-ID | The content ID for the discarded flows. If not configured, this field is not displayed. |

show content-filtering category statistics

Table 189: show content-filtering category statistics Command Output Descriptions

| Field | Description |
|--|---|
| Service Name | Name of the Content Filtering service. |
| Content Filtering status | Status of the current Content Filtering service. |
| Overall Status | Indicates capability of the system to perform Content Filtering service. |
| Content Filtering Statistics | Indicates the Content Filtering statistics group information. |
| Static Rating | Information on static rating content-filtering. |
| SRDB Request Count | Total number of requests received. |
| SRDB Response Total | Total number of responses sent for requests. |
| SRDB Response Successful | Total number of responses for successful requests. |
| SRDB Response Not Rated | Total number of responses for requests without rating. |
| SRDB Response Not in DB | Total number of responses for unknown or undefined requests. |
| Number of Incremental DB Received | Total number of incremental rating database received by the Content Filtering subsystem. |
| Number of Successful Incremental Upgrade Performed | Total number of incremental upgrades performed successfully with incremental rating database. |
| Number of Full DB Received | Total number of full rating database received by the Content Filtering subsystem. |

| Field | Description |
|---|--|
| Number of Successful Full Upgrade Performed | Total number of full upgrades performed successfully with incremental rating database. |
| Time Since Last Upgrade (dd:hh:mm:ss) | Time since last upgraded, full or incremental, performed. |

show content-filtering category statistics facility srdmgrp all

Table 190: show content-filtering category statistics facility srdmgrp all Command Output Descriptions

| Field | Description |
|--|---|
| Content Filtering status | Indicates Content Filtering service status. |
| Overall Status | Indicates the system's ability to perform content filtering. |
| Dynamic Content Filtering status | Indicates Dynamic Content Filtering service status. |
| Overall Status | Indicates the system's ability to perform dynamic content filtering. |
| Content Filtering SRDB Instance Based Statistics | Indicates the group statistics of content filtering based on Static Rating Database Manager instance. |
| Instance Number | Indicates the SRDB Manager's instance number. |
| Static Rating: | |
| Request Count | Total number of requests received. |
| Response Total | Total number of responses sent for requests. |
| Response Successful | Total number of responses for successful requests. |
| Response Not Rated | Total number of responses for requests without rating. |
| Response Not in DB | Total number of responses for unknown or undefined requests. |
| Average Ratings/sec | Indicates the average ratings performed per second. |
| Number of URLs rated by domain | Total number of URLs rated with given domain. |
| Dynamic Content Filtering SRDB Instance Based Statistics: | |
| Instance Number | Indicates the instance number of SRDB manager. |
| Dynamic Rating: | |
| Request Count | Total number of requests received. |
| Response Total | Total number of responses sent for requests. |
| Response Successful | Total number of responses for successful requests. |

| Field | Description |
|---|--|
| Response Not Rated | Total number of responses for requests without rating. |
| Histogram based on URL length | Indicates the histogram statistics of URLs grouped by length of URL. |
| Histogram for number of URLs hit per SN category (sorted on no. of URLs): | Indicates the specific category and the number of URLs hit per category. If, during runtime, an x-category was added, the x-category is also displayed. |

show content-filtering category url <url> policy-id <id> verbose

Table 191: show content-filtering category url <url> policy-id <id> verbose Command Output Descriptions

| Field | Description |
|--------------------------|---|
| URL | The URL path for Static Rating Category Database. |
| URL Root Domain | The URL's root domain information. |
| URL OPTCMDB Volume | The Optimized Content Rating Master Database (OPTCMDB) volume and version. |
| URL Hash | Indicates the URL hash in URL OPTCMDB. |
| Domain Used For Rating | Indicates whether domain name is used for URL rating. Possible values are: <ul style="list-style-type: none"> • TRUE • FALSE |
| URL Category | The URL's category. |
| Action Configured | Indicates the action configured. Important In case of multiple categories, the action configured for a category with highest priority is displayed. If Dynamic Content Filtering is enabled, the action configured for DYNAM and UNKNOW is displayed as Dynamic (i.e. the URL is sent for Dynamic categorization). In case more than one category is returned with DYNAM and if it is configured with higher priority then, that action will be shown. |
| Content Insertion String | Indicates the content insertion string. Important This field is displayed only if Dynamic CF is not enabled. |

| Field | Description |
|--------------|---|
| Redirect URL | Indicates the redirected URL. Note This field is displayed only in the case of multiple categories. |

show content-filtering server-group name

Table 192: show content-filtering server-group name Command Output Descriptions

| Field | Description |
|--------------------------|---|
| Content Filtering Group | The name of the Content Filtering Server Group (CFSG). |
| Context | The name of the content in which CFSG is configure. |
| Origin Address | IP address of the origin endpoint or ICAP client. |
| ICAP Address(Port) | IP address and port number of ICAP server with in CF Server Group. |
| Max Outstanding | Total number of unanswered outstanding messages to this ICAP server. |
| Failure Action | Displays the action taken on connection failure. |
| Response Timeout | Displays the configured response-timeout duration to wait for response. |
| Connection Retry Timeout | Displays the configured connection retry timeout duration to check the TCP connection status between ICAP sever and client. |
| Dictionary | Displays the configured dictionary to use for encoding the requests to the server(s). |
| Deny Message | Displays the configured text string message that is returned to the subscriber in a deny response. |
| Header Extension Options | Displays the ICAP header information if configured or displays "None" if no ICAP header is configured. |

show content-filtering server-group statistics

Table 193: show content-filtering server-group statistics Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Content Filtering Group | The name of the Content Filtering Server Group (CFSG). |

| Field | Description |
|-------------------------------|--|
| Connection Statistics | Displays the ICAP connection related statistics. |
| Current Open Connections | Total number of open connections. |
| Connection DHOST requests | Total number of DHOST requests. |
| Successfull Connections | Total number of successful connections. |
| Connections DHOST remove | Total number of connections removed from DHOST. |
| Connection SHUTDOWN req | Total number of requests for SHUTDOWN. |
| ACF Unreachable(read) | Total number of attempts for Active Content Filter server (ICAP server) to read. |
| ACF Unreachable(write) | Total number of attempts for Active Content Filter server (ICAP server) to write. |
| Reconnect attempts | Total number of reconnect attempts for ACF server (ICAP server). |
| Connection Timeout | Total number of connections timeout after reconnect attempts for ACF server (ICAP server). |
| Connection Failure Statistics | Displays connection failure statistics. |
| Connection DHOST errors | Total number of connection DHOST errors in connection. |
| Connection CONNECT error | Total number of connection CONNECT errors in connection. |
| Socket open errors | Total number of errors due to SOCKET open in connection. |
| Connection bind errors | Total number of BIND errors in connection. |
| Connection setvr errors | Total number of SETVER errors in connection. |
| Connection NONBLOCK errors | Total number of NONBLOCK errors in connection. |
| Connection SHUTDOWN errors | Total number of SHUTDOWN errors in connection. |
| Incomplete 3-way handshaking | Total number of errors due to incomplete 3-way handshaking in TCP connection. |
| ACF Statistics | Displays Active Content Filter (ICAP server) statistics. |
| ACF Requests Created | Total number of requests created for ACF. |
| Response Timeout | Total number of response timeout for requests to ACF. |
| Write request success | Total number of successful WRITE requests. |
| Write request failed | Total number of failed WRITE requests. |
| Read response success | Total number of successful READ response. |
| Read response failed | Total number of failed READ response. |

| Field | Description |
|--|--|
| HTTP Permit | Total number of HTTP URLs permitted from ACF. |
| WAP Permit | Total number of WAP URLs permitted from ACF. |
| HTTP Denny | Total number of HTTP URLs denied from ACF. |
| WAP Denny | Total number of WAP URLs denied from ACF. |
| HTTP Redirect | Total number of HTTP URLs redirected from ACF. |
| WAP Redirect | Total number of WAP URLs redirected from ACF. |
| Invalid ACTION | Total number of invalid ACTION message from ACF. |
| Redirect URL not defined | Total number of errors due to undefined redirect URL. |
| Buffer List Empty | Total number of errors due to empty buffer list. |
| Failure action Permit | Total number of connections permitted after connection failure. |
| Failure action Deny | Total number of connections denied after connection failure. |
| Failure action Discard | Total number of connections discarded after connection failure. |
| Failure action Terminate | Total number of connections terminated after connection failure. |
| Failure actions taken | Total number of actions taken after failure in connection failure. |
| Num pkts dropped for DENY | Total number of packets dropped after denying the connection due to failure in connection. |
| Num pkts dropped for REDIRECT | Total number of packets dropped after redirecting the connection due to failure in connection. |
| Num pkts dropped for DENY Timeout action | Total number of packets dropped after denying the connection due to timeout action. |
| Num pkts dropped for REDIRECT Timeout action | Total number of packets dropped after redirecting the connection due to timeout action. |
| ACF Resp Parse Statistics | Displays the statistics related to ACF response parsing. |
| Parse ACF resp success | Total number of successful ACF parse response. |
| Parse ACF resp ver err | Total number of successful ACF parse response version error. |
| Misc Statistics | Displays the miscellaneous statistics. |
| Total pkts sent | Total number of packets sent through ICAP connection. |
| Invalid ACF group config | Total number of errors due to invalid CF Server Group (Active Content Filter server groups) configuration. |

| Field | Description |
|---------------------------|--|
| Invalid bind address | Total number of errors due to invalid binding address configuration. |
| Invalid ICAP address | Total number of errors due to invalid ICAP server addresses. |
| Num req to standby server | Total number of requests sent to the standby server. |



CHAPTER 34

show chassis-throughput

This chapter includes the **show chassis-throughput** command output table.

- [show chassis-throughput, on page 679](#)

show chassis-throughput

Table 194: show chassis-throughput Command Output Descriptions

| Field | Description |
|--------------------|---|
| Chassis Throughput | Indicates the configured throughput of the chassis. |
| Card/Cpu | Indicates individual distribution of throughput on per card, per CPU basis. |
| Throughput | Indicates the throughput for the individual card/CPU. |



CHAPTER 35

show context all

This chapter includes the **show context all** command output tables.

- [show context all, on page 681](#)

show context all

Table 195: show context all Command Output Descriptions

| Field | Description |
|--------------|---|
| Context Name | The name of a configured context. |
| Context ID | The system ID of the context. |
| State | The current state of the context. The possible states are: Active: The VPN Manager task is running and is ready to respond to the requests. Initializing: The Context is configured but not yet started. The VPN Controller knows about it and is in the process of starting the VPN Manager. In other words, the VPN Manager services are not available yet. Inactive: The VPN Manager is configured but either the task is not running yet or the VPN Manager has just crashed and the restart process is going on. |



CHAPTER 36

show cpu

This chapter includes the **show cpu** command output tables.



Important

The outputs of **show cpu** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- [show cpu info](#), on page 683
- [show cpu info verbose](#), on page 684
- [show cpu table](#), on page 686

show cpu info

Table 196: show cpu info Command Output Descriptions

| Field | Description |
|---------------|---|
| Card | Displays the slot number of the card. |
| CPU | Displays the CPU number as an integer. |
| Status | Indicates the CPU status: Active: The CPU is active and available for session processing. Standby: The CPU is on standby. Also indicates if Kernel Running and Tasks Running . |
| Load Average | Indicates the average CPU load. |
| Total Memory | Indicates the total physical memory available to the CPU in megabytes. |
| Kernel Uptime | Indicates how long the kernel has been up since last boot in Days, Hours and Minutes. |
| Last Reading: | Displays current CPU usage statistics (snapshot). |

| Field | Description |
|-------------------|---|
| CPU Usage | Indicates the percentage of use for user, system, I/O, IRQ and idle. In VPC systems, the value displayed excludes the poll CPU values. |
| Poll CPUs | Indicates the number of the IFTASK threads. The IFTASK threads are omitted from the CPU utilization calculation for this command output as well as the bulk statistics output. This means that the reported CPU utilization is more accurate. |
| Processes / Tasks | Indicates the total number of running processes and tasks. |
| Network | Indicates the number of packets and bytes received and transmitted. |
| File Usage | Indicates the number of open and available files. |
| Memory Usage | Indicates the amount of physical memory used in bytes and as a percentage of available memory. |
| Maximum/Minimum: | Displays maximum and minimum usage statistics. |
| CPU Usage | Indicates the percentage of use for user, system, I/O, IRQ and idle. |
| Poll CPUs | Indicates the number of the IFTASK threads. The IFTASK threads are omitted from the CPU utilization calculation for this command output as well as the bulk statistics output. This means that the reported CPU utilization is more accurate. |
| Processes / Tasks | Indicates the number of running processes and tasks. |
| Network | Indicates the number of packets and bytes received and transmitted. |
| File Usage | Indicates the number of open and available files. |
| Memory Usage | Indicates the amount of physical memory used in bytes and as a percentage of available memory. Important In release 21.1, show cpu info outputs are standardized to use Megabytes (M) as the unit of measurement for memory usage. |

show cpu info verbose

Table 197: show cpu info verbose Command Output Descriptions

| Field | Description |
|-------|---------------------------------------|
| Card | Displays the slot number of the card. |

| Field | Description |
|------------------------|---|
| CPU | Displays the CPU number as an integer. |
| Status | Indicates the CPU status: Active: The CPU is active and available for session processing. Standby: The CPU is on standby. Also indicates Kernel Running and Tasks Running . |
| Load Average | Indicates the average CPU load. |
| Total Memory | Indicates the total physical memory available to the CPU in megabytes. |
| Kernel Uptime | Indicates how long the kernel has been up since last boot in Days, Hours and Minutes. |
| Last Reading: | Displays current CPU usage statistics (snapshot). |
| CPU Usage All | Indicates the percentage of use across all cores for user, system, I/O, IRQ and idle. In VPC systems, the value displayed excludes the poll CPU values. |
| Core <i>n</i> | Indicates the percentage of use for an individual core within the CPU for user, system, I/O, IRQ and idle. (VPC-DI only) Any Cores that are indicated as Poll CPUs are IFTASK threads that are not included in the CPU calculations. |
| Poll CPUs | (VPC-DI only) Number of IFTASK threads that are not included in the CPU calculations. reported by this command. |
| Core <i>n</i> | (VPC-DI only) Indicates the percentage of use for an individual Poll CPU core. Note 100% CPU utilization for DPDK is an expected behavior as the Poll Mode Driver (PMD) thread runs continuously on a core as per the DPDK driver architecture. |
| Processes / Tasks | Indicates the total number of running processes and tasks. |
| Network loeth0 | Indicates the number of packets and bytes received and transmitted on the management interface. |
| Network ports <i>p</i> | Indicates the number of packets and bytes received and transmitted on a service interface (<i>slot_port</i>). |
| File Usage | Indicates the number of open and available files. |
| Memory Usage | Indicates the amount of physical memory used in bytes and as a percentage of available memory. |

| Field | Description |
|-------------------|---|
| Memory Usage | Indicates the amount of physical memory used in bytes and as a percentage of available memory. Important In release 21.1, show cpu info outputs are standardized to use Megabytes (M) as the unit of measurement for memory usage. |
| Memory Details: | Displays more detailed memory usage statistics. |
| Static | Indicates the amount of memory used by the kernel and system files in megabytes. |
| System | Indicates the amount of memory used for temp storage, buffers and caches in megabytes. |
| Process/Task | Indicates the amount of memory used for processes and tasks. |
| Free | Indicates the amount of free (available) memory (including reserved). |
| Usable | Indicates the amount of unreserved available memory. |
| 5-Minute Average | Displays the average CPU usage statistics for the last five minutes. |
| 15-Minute Average | Displays the average CPU usage statistics for the last 15 minutes. |

show cpu table

Table 198: show cpu table Command Output Descriptions

| Field | Description |
|-----------|--|
| CPU | Displays the number of the CPU in the format <i>slot_number/cpu_number</i> . |
| State | Indicates the CPU state as one of the following: Active: The CPU is active and available for session processing. Sndby: The CPU is on standby. |
| Load | Indicates the CPU load for the following time intervals: Now: Current load 5min: Load within the last 5 minutes 15min: Load within the last 15 minutes |
| CPU-Usage | Indicates the CPU usage as a percentage for the following time intervals: Now: Current usage 5min: Usage within the last 5 minutes 15min: Usage within the last 15 minutes |

| Field | Description |
|--------|--|
| Memory | <p>Indicates the memory usage for the following time intervals:</p> <p>Now: Current usage 5min: Usage within the last 5 minutes 15min: Usage within the last 15 minutes</p> <p>In addition, the total memory available on the CPU is displayed.</p> <p>The PSC has two CPUs, the main CPU (CPU 0) contains 16 GB of memory. The second CPU is contained within the card's NPU and provides an additional 512 MB of memory. The PSC2 has two CPUs, the main CPU (CPU 0) contains 32 GB of memory.</p> |



CHAPTER 37

show crypto

This chapter includes the **show crypto** command output tables.

- [show crypto group summary](#), on page 689
- [show crypto ikev2-ikesa security-associations summary](#), on page 690
- [show crypto ikev2-ikesa security-associations summary spi](#), on page 690
- [show crypto ipsec security-associations](#), on page 691
- [show crypto ipsec security-associations statistics](#), on page 694
- [show crypto ipsec security-associations summary](#), on page 697
- [show crypto isakmp keys](#), on page 698
- [show crypto isakmp security-associations](#), on page 698
- [show crypto managers](#), on page 699
- [show crypto managers instance](#), on page 699
- [show crypto managers summary](#), on page 700
- [show crypto map summary](#), on page 701
- [show crypto statistics](#), on page 704
- [show crypto statistics ikev2 service-name](#), on page 710
- [show crypto template summary](#), on page 720

show crypto group summary

Table 199: show crypto group summary Command Output Descriptions

| Field | Description |
|------------------|---|
| Crypto Group | Name of the crypto group |
| Primary Tunnel | Configuration information for the primary tunnel. |
| Secondary Tunnel | Configuration information for the secondary tunnel. |

show crypto ikev2-ikesa security-associations summary

Table 200: show crypto ikev2-ikesa security-associations summary Command Output Descriptions

| Field | Description |
|--------------------|---|
| Mgr ID | SA Manager ID number |
| VPN | SA VPN number |
| Local IPsec GW | Local default gateway IP address |
| Port | UDP port number |
| Remote IPsec GW | Remote default gateway IP address |
| Port | UDP port number |
| Hostname | Name of the remote gateway |
| State | Authentication state <ul style="list-style-type: none"> • I = Initiator • R = Responder |
| Lifetime/Remaining | Originally configured lifetime for the SA in seconds/number of seconds left in this lifetime. |

show crypto ikev2-ikesa security-associations summary spi

Table 201: show crypto ikev2-ikesa security-associations summary spi Command Output Descriptions

| Field | Description |
|-----------------|---|
| Local IPsec GW | Local default gateway IP address |
| Remote IPsec GW | Remote default gateway IP address |
| Initiator SPI | SPI (Security Parameter Index) of the Initiator |
| Responder SPI | SPI of the Responder |
| Lifetime | Originally configured lifetime for the SA in seconds/number of seconds left in this lifetime. |

show crypto ipsec security-associations

| Field | Description |
|-------------------|---|
| Map Name | The name of the crypto map facilitating the security association. |
| Local Address | The IP address of the interface on the security gateway facilitating the security association. |
| Current Peer | The IP address of the interface on the peer gateway facilitating the security association. |
| Peer Hostname | The name of the peer. |
| Crypto Type | The type of crypto map facilitating the security association, which can be: <ul style="list-style-type: none"> • Dynamic Map • IKEv1 Map • IKEv2 Map • Manual Map |
| SA State | The state of the security association, which can be: <ul style="list-style-type: none"> • Established • Partially Established • No SAs |
| IPSec Manager | The identifying number of the IPsec manager facilitating the security association. |
| Rekeying | The state of rekeying for the security association, which can be: <ul style="list-style-type: none"> • Enabled • Disabled |
| Redundancy Status | The state of the security association, which can be: <ul style="list-style-type: none"> • Original Tunnel: No failure has occurred. • Recovered Session: A failure has occurred and a recovered session has been created. |
| Allocated Address | The IP address allocated to the Network Access Identifiers (NAIs) of the users. |
| Phase 1 | The NAI used in Phase 1 authentication. |
| Phase 2 | The NAI used in Phase 2 authentication. |

| Field | Description |
|-------------------------|--|
| Encoded | The number of packets and bytes of data that have been encoded for the security association. |
| Encoded Errors | The number of errors that occurred while the packets were being encoded. |
| Decoded | The number of packets and bytes of data that have been decoded for the security association. |
| Decoded Errors | The number of errors that occurred while the packets were being decoded. |
| Authentication Errors | The number of errors that occurred during authentication. |
| Replay Errors | The number of replay errors that occurred. |
| Too short Errors | The number of too short errors that occurred. |
| IPSec SA | |
| Diffie-Hellman Group | The number of the Diffie-Hellman group to which the security association belongs. |
| Outbound esp sas | |
| spi | The Security Parameter Index (SPI) of the outbound ESP security association. |
| transform | |
| hmac | The keyed-Hash Message Authentication Code used for the outbound ESP security association, which can be: <ul style="list-style-type: none"> • sha1-96 • md5-96 |
| cipher | The cipher used for the outbound ESP security association, which can be: <ul style="list-style-type: none"> • null • des • 3des • aes-cbc-128 • aes-cbc-256 |

| Field | Description |
|-----------------------------------|--|
| negotiated soft lifetime (kb/sec) | The soft lifetime in kilobits and/or seconds for the outbound ESP security association, created when a successful rekey has occurred. The soft lifetime is used to warn that the security association is about to expire, allowing the security gateway to create a new lifetime prior to the expiration of the hard lifetime. |
| remaining soft lifetime (kb/sec) | The remaining soft lifetime in kilobits and/or seconds. |
| negotiated hard lifetime (kb/sec) | The hard lifetime in kilobits and/or seconds for the outbound ESP security association. The hard lifetime is the number of kilobits and/or seconds used before the security association expires. |
| remaining hard lifetime (kb/sec) | The remaining hard lifetime in kilobits and/or seconds. |
| Encoded | The number of encoded packets and bytes of data for the outbound ESP security association. |
| Encoded Errors | The number of errors that occurred while the packets were being encoded. |
| Inbound esp sas | |
| spi | The Security Parameter Index (SPI) of the inbound ESP security association. |
| transform | |
| hmac | The keyed-Hash Message Authentication Code used for the inbound ESP security association, which can be: <ul style="list-style-type: none"> • sha1-96 • md5-96 |
| cipher | The cipher used for the inbound ESP security association, which can be: <ul style="list-style-type: none"> • null • des • 3des • aes-cbc-128 • aes-cbc-256 |
| negotiated soft lifetime (kb/sec) | The soft lifetime in kilobits and/or seconds for the inbound ESP security association, created when a successful rekey has occurred. The soft lifetime is used to warn that the security association is about to expire, allowing the security gateway to create a new lifetime prior to the expiration of the hard lifetime. |
| remaining soft lifetime (kb/sec) | The remaining soft lifetime in kilobits and/or seconds. |

| Field | Description |
|-----------------------------------|---|
| negotiated hard lifetime (kb/sec) | The hard lifetime in kilobits and/or seconds for the inbound ESP security association. The hard lifetime is the number of kilobits and/or seconds used before the security association expires. |
| remaining hard lifetime (kb/sec) | The remaining hard lifetime in kilobits and/or seconds. |
| Decoded | The number of packets and bytes of data that have been decoded for the inbound ESP security association. |
| Decoded Errors | The number of errors that occurred while the packets were being decoded. |
| Authentication Errors | The number of errors that occurred during authentication. |
| Replay Errors | The number of replay errors that occurred. |
| Too short Errors | The number of too short errors that occurred. |

show crypto ipsec security-associations statistics

Table 202: show crypto ipsec security-associations statistics Command Output Descriptions

| Field | Description |
|----------------------|---|
| Map Name | The name of the crypto map for which statistics are being displayed. |
| Application Map Name | The application map name that concatenates the following: <ul style="list-style-type: none"> • Application Supported: MIP or L2TP • Local Address: The IP address of the interface on the system facilitating the security association (SA). • Peer Address: The IP address of the peer security gateway facilitating the SA. • Traffic Type: Control, GRE encapsulated data, or IP/IP (IP-in-IP) encapsulated data <p>NOTE: When a crypto map does not have any IPSec SAs established yet, i.e. No IKE negotiation has taken place OR the tunnel had been brought down after inactivity during the entire lifetime of the SAs, is marked as "Security Association is not established&excl;"</p> |
| local addr | The IP address of the interface on the system facilitating the security association (SA). |
| ACL | For ISAKMP or manual crypto maps, this is the name of the access control list (ACL) that is matched to the crypto map. |

| Field | Description |
|-----------------------------------|--|
| current peer | The IP address of the peer security gateway facilitating the SA. |
| Tunnel is keyed 1 times. | The number of times the tunnel was keyed. In this example, the tunnel was keyed once. |
| Encoded | The number of packets and bytes that have been encoded for the SA. |
| Encode Errors | The number of errors that have occurred while encoding packets. |
| Decoded | The number of packets and bytes that have been decoded for the SA. |
| Decode Errors | The number of errors that have occurred while decoding packets. |
| Authentication Errors | The number of errors that occurred during the system/security gateway authentication process. |
| Replay Errors | The number of replay errors that occurred for the SA. |
| outbound esp sas | |
| spi | The outbound (from the system to the security gateway) security parameter index (SPI) used for the Encapsulating Security Payload protocol. |
| transform | The protocols configured for the transform set used by the crypto map for outbound tunnels. |
| negotiated soft lifetime (kb/sec) | <p>The soft lifetime negotiated by the system and the security gateway for outbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec).</p> <p>The soft lifetime is used to warn that the SA is about to expire allowing the systems to negotiate a new lifetime prior to the expiration of the hard lifetime.</p> |
| remaining soft lifetime (kb/sec) | The amount of kilobytes and/or seconds remaining to the soft lifetime from what was initially negotiated. |
| negotiated hard lifetime (kb/sec) | <p>The hard lifetime negotiated by the system and the security gateway for outbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec).</p> <p>The hard lifetime that dictates the maximum duration for the SA before its termination.</p> |
| remaining hard lifetime (kb/sec) | The amount of kilobytes and/or seconds remaining to the hard lifetime from what was initially negotiated. |
| Encoded | The number of packets and bytes that have been encoded for the SA. |
| Encode Errors | The number of errors that have occurred while encoding packets. |

| Field | Description |
|---|--|
| inbound esp sas | |
| spi | The inbound (from the system to the security gateway) security parameter index (SPI) used for the Encapsulating Security Payload protocol. |
| transform | The protocols configured for the transform set used by the crypto map for inbound tunnels. |
| negotiated soft lifetime (kb/sec) | The soft lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The soft lifetime is used to warn that the SA is about to expire allowing the systems to negotiate a new lifetime prior to the expiration of the hard lifetime. |
| remaining soft lifetime (kb/sec) | The amount of kilobytes and/or seconds remaining to the soft lifetime from what was initially negotiated. |
| negotiated hard lifetime (kb/sec) | The hard lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The hard lifetime that dictates the maximum duration for the SA before its termination. |
| remaining hard lifetime (kb/sec) | The amount of kilobytes and/or seconds remaining to the hard lifetime from what was initially negotiated. |
| Decoded | The number of packets and bytes that have been decoded for the SA. |
| Decode Errors | The number of errors that have occurred while decoding packets. |
| Authentication Errors | The number of errors that occurred during the system/security gateway authentication process. |
| Replay Errors | The number of replay errors that occurred for the SA. |
| Too Short Errors | The number of too short errors that occurred for the SA. |
| ISAKMP sessions established for this tunnel | The total number of sessions successfully connected by this SA. |
| ISAKMP sessions failed for this tunnel | The total number of sessions that failed to be connected by this SA. |
| ISAKMP for this tunnel | NOTE: These items are displayed for the life of the ISAKMP SA. |
| Phase1 Completed as Responder | Indicates the state of the Phase 1 IPSec negotiation stage and role of the system (either responder or initiator). |
| Statistics | Displays statistics for the ISAKMP SA. |

| Field | Description |
|--------------------------|--|
| IN | The number of packets/bytes received. |
| OUT | The number of packets/bytes transmitted. |
| 1 Phase2 negotiations | The number of negotiations that have taken place in Phase 2. |
| Negotiated Hard lifetime | The hard lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The hard lifetime that dictates the maximum duration for the SA before its termination. |

show crypto ipsec security-associations summary

Table 203: show crypto ipsec security-associations summary Command Output Descriptions

| Field | Description |
|----------|---|
| vvv | <p>The first value (v) indicates the state of the security association (SA State), which can be:</p> <ul style="list-style-type: none"> • E: Established • P: Partially Established • N: No SAs <p>The second value (v) indicates the state of rekeying (Rekey/Keepalive), which can be:</p> <ul style="list-style-type: none"> • D: Rekey Disabled • E: Rekey Enabled/No Keepalive • K: Rekey Enabled/Keepalive <p>The third value (v) indicates the type of crypto map (Crypto Type) facilitating the security association, which can be:</p> <ul style="list-style-type: none"> • D: Dynamic Map • I: IKEv1 Map • J: IKEv2 Map • M: Manual Map |
| Map Name | The name of the crypto map facilitating the security association. |
| Rekeys | The number of rekeys that occurred for the security association. |

| Field | Description |
|---------|---|
| En Pkts | The number of packets that have been encrypted and transmitted over the security association. |
| De Pkts | The number of packets that have been received over the security association and decrypted. |

show crypto isakmp keys

Table 204: show crypto isakmp keys Command Output Descriptions

| Field | Description |
|-----------------|---|
| Peer IP Address | The IP address of the security gateway(s). |
| Preshared Key | The pre-shared key(s) (in Hex) exchanged by the security gateway. |

show crypto isakmp security-associations

Table 205: show crypto isakmp security-associations Command Output Descriptions

| Field | Description |
|-----------------|--|
| Local IPSec GW | The IP address of the local IPSec gateway. |
| Remote IPSec GW | The IP address of the remote IPSec gateway. |
| State | <p>This displays the state of the SA.</p> <p>The two letters at the beginning of the state define the IKE mode as follows:</p> <ul style="list-style-type: none"> • MM - Main Mode • QM - Quick Mode • AM - Aggressive Mode <p>The letter in parentheses () at the end of the state, describe where the state message was initiated as follows:</p> <ul style="list-style-type: none"> • I - Initiator • R - Responder |
| Lifetime | The lifetime (time) the security association is active and amount of time remaining. |

show crypto managers

Table 206: show crypto managers Command Output Descriptions

| Field | Description |
|--|---|
| Total IKEv2 Invalid-MsgId Notify Sent | An invalid KE Payload was received and the receiver sent back a NOTIFY payload to indicate this. This is the number of times a NOTIFY payload was sent to indicate this error condition. |
| Total IKEv2 Invalid-MsgId Notify Received | A NOTIFY Payload was received indicating that the KE which had been previously sent to the peer was deemed invalid by the peer. |
| Total IKEv2 Invalid-KE Notify Sent | An IKE packet was received for which the message-id is invalid. A NOTIFY payload was sent to the peer to indicate that the received message-id was invalid. This maintains the count of the number of times that such a NOTIFY payload was sent. |
| Total IKEv2 Invalid-KE Notify Received | A NOTIFY payload was received indicating that the message-id which had been previously sent to the peer was deemed invalid by the peer. |
| Total IKEv2 No-Prop-Chosen Notify Sent | The receiver could not accept the protocol proposal which was sent. A NOTIFY payload was sent back to indicate this. This maintains the count of the number of times such a NOTIFY payload was sent. |
| Total IKEv2 No-Prop-Chosen Notify Received | A NOTIFY payload was received indicating that the proposals which had been previously sent to the peer could not be accepted. |

show crypto managers instance

Table 207: show crypto managers instance Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| IKEv2 DoS Cookie-Challenge Status | Denial of Service status. <ul style="list-style-type: none"> • On • Off |

| Field | Description |
|-------------------------------|---|
| Certificate Information | <p>For non-expired certificates:</p> <ul style="list-style-type: none"> • Serial number: <i><string></i> • Monitoring Timer: Running • Status: Not Expired • Next Timer <i><datetime></i> • Expiry: <i><datetime></i> <p>For expired certificates</p> <ul style="list-style-type: none"> • Serial number: <i><string></i> • Monitoring Timer: Stopped • Status: Expired • Next Timer: Not Scheduled • Expiry: <i><datetime></i> |
| IKEv2 Statistics | This displays the IKEv2 statistics for this manager instance |
| Current IKEv2 SAs | The total number of all IKEv2 SAs for this manager instance |
| Current half-open IKEv2 SAs | The number of IKEv2 SAs in half-open state for this manager instance |
| Current Connecting IKEv2 SAs | The number of IKEv2 SAs trying to connect for this manager instance |
| Current Established IKEv2 SAs | The number of established IKEv2 SAs for this manager instance |
| Internal Failure Sent | Indicates an internal failure in ipsecmgr or dcardmgr and a Notify message was sent to the peer. |

show crypto managers summary

Table 208: show crypto managers summary Command Output Descriptions

| Field | Description |
|---------------|---|
| demux-stats | Display sessions demux statistics on each IPsec Manager. |
| distribution | Display IPsec Manager distribution info. |
| handoff-stats | Display IKE request handoff Statistics on each IPsec Manager. |
| ike-stats | Display IKE statistics on each IPsec Manager. |

| Field | Description |
|----------------|--|
| ikev2-stats | Display IKEv2 statistics on each IPsec Manager. |
| ipsec-sa-stats | Display IPsec SA statistics on each IPsec Manager. |

show crypto map summary

Table 209: show crypto map summary Command Output Descriptions

| Field | Description |
|------------------------|---|
| Total Crypto maps | The total number of crypto maps of all types. |
| Configured maps | The total number of configured crypto maps. |
| Service maps | The total number of service maps. There is one map per service. |
| Subscriber maps | The total number of subscriber maps. |
| Map Types | |
| ipsec-dynamic | The total number of dynamic IPsec tunnel crypto maps. |
| ipsec-l2tp | The total number of L2TP IPsec tunnel crypto maps. |
| ipsec-ikev1 | The total number of IKEv1 IPsec tunnel crypto maps. |
| ipsec-manual | The total number of manual (static) IPsec tunnel crypto maps. |
| ipsec-ikev2-subscriber | The total number of IKEv2 subscriber tunnel crypto maps. |
| ipsec-mobile-ip | The total number of mobile IP IPsec tunnel crypto maps. |
| IKEv2 SA | |
| Cipher null | The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear. |
| Cipher des | The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher 3des | The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-128 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode. |

| Field | Description |
|--------------------|---|
| Cipher aes-cbc-256 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cipher Block Chaining (CBC) mode. |
| PRF sha1 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Secure Hash Algorithm-1. |
| PRF md5 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Message Digest 5. |
| HMAC sha1 | The total number of IKEv2 security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits. |
| HMAC md5 | The total number of IKEv2 security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits. |
| DH Group 1 | The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 2 | The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 5 | The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 14 | The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| IPSec SA | |
| Protocol esp | The total number of IPsec security associations using Encapsulating Security Payload (ESP) protocol. |
| Protocol ah | The total number of IPsec security associations using Authentication Header (AH) protocol. |

| Field | Description |
|--------------------|---|
| Cipher null | The total number of IPsec security associations using the block cipher NULL. All IKEv2 IPsec security association derived traffic is sent in the clear. |
| Cipher des | The total number of IPsec security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher 3des | The total number of IPsec security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-128 | The total number of IPsec security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-256 | The total number of IPsec security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode. |
| HMAC sha1-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits (the default). |
| HMAC md5-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits. |
| DH Group 1 | The total number of IPsec security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 2 | The total number of IPsec security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 5 | The total number of IPsec security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 14 | The total number of IPsec security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |

show crypto statistics

Table 210: show crypto statistics Command Output Descriptions

| Field | Description |
|--|---|
| Combined ipsec statistics for context <context-name> | The name of the system context for which statistics are displayed. |
| Transmit Statistics | |
| ESP Encode | The total number of packets and bytes that were transmitted having been encoded for the SA using the Encapsulating Security Payload (ESP) protocol. |
| AH Encode | The total number of packets and bytes that were transmitted having been encoded for the SA using the Authentication Header (AH) protocol. |
| Transmit Error Counters | |
| Encode Packets | The total number of packets which have errors while encoding. |
| Encode Bytes | The total number of bytes which have errors while encoding. |
| Receive Statistics | |
| ESP Decode | The total number of packets and bytes that were received having been encoded for the SA using the Encapsulating Security Payload (ESP) protocol. |
| AH Decode | The total number of packets and bytes that were received having been encoded for the SA using the Authentication Header (AH) protocol. |
| Receive Error Counters | |
| Decode Packets | The total number of packets which have errors while decoding. |
| Decode Bytes | The total number of bytes which have errors while encoding. |
| Replay Packets | The total number of packets which have been replayed. |
| Replay Bytes | The total number of bytes which have been replayed. |
| Combined Control Statistics for Context | The name of the system context for which statistics are displayed. |
| IKE Flow Counts | |
| IKE Gateway Flows | The number of UDP flows, incremented when UDP flows are allocated and decremented when UDP flows are freed. |
| IKE Session Flows | The number of cookie flows, incremented when cookie flows are allocated and decremented when cookie flows are freed. |

| Field | Description |
|---|--|
| Transmit Statistics | |
| IKE Packets | The total number of total IKE packets transmitted. |
| Receive Statistics | |
| IKE Packets Received | The total number of IKE packets received. |
| New IKE Req | The total number of IKE packets sent for new IKE requests. |
| Gateway Flow Packets | The total number of UDP flow packets received. |
| Session Flow Packets | The total number of cookie flow packets received. |
| Rekey Statistics | |
| IKE Rekeys | The total number of times the IKE SAs negotiated during phase 1 of the IPSec negotiation have been rekeyed. This field is for IKEv1 only and it will be 0 for IKEv2. |
| Dead Peer Detection (DPD) Statistics | |
| Req Sent | The total number of DPD R-U-THERE packets sent. |
| Rsp Rcvd | The total number of DPD R-U-THERE-ACK packets received. |
| Req Rcvd | The total number of DPD R-U-THERE packets received. |
| Rsp Sent | The total number of DPD R-U-THERE-ACK packets sent. |
| Disconnects | The total number of DPD disconnects that occurred between the peers. |
| Timeouts | The total number of ISAKMP DPD protocol messages that have exceeded their configured timeout period. |
| NAT-T Statistics | |
| Keepalives Sent | The total number of NATT keepalive packets sent. |
| Keepalives Rcvd | The total number of NATT keepalive packets received. |
| Detailed IKE Statistics | |
| Active IKE SAs | The total number of SAs: <ul style="list-style-type: none"> • Initiated • Responded. |
| Total IKE SAs | The total number of SAs (cumulative history): <ul style="list-style-type: none"> • Initiated • Responded. |

| Field | Description |
|---|--|
| Total Attempts | The total cumulative attempts made to establish SAs: <ul style="list-style-type: none"> • Initiated • Responded. |
| Total IKE SA Deletes | <ul style="list-style-type: none"> • Req Sent • Rsp Rcvd • Req Rcvd • Rsp Sent |
| Total Packets In | The total cumulative IKE packets received. |
| Total Packets Out | The total cumulative IKE packets sent. |
| Total Octets In | The total cumulative IKE octets received. |
| Total Octets Out | The total cumulative IKE octets sent. |
| Establishment Failure Statistics | |
| Initiation Neg Error | The total number of initiated negotiations that failed because of errors. |
| Initiation Neg Time Out | The total number of initiated negotiations that failed because of timeouts (no response). |
| Response Neg Error | The total number of responded negotiations that failed because of errors. |
| Congestion Reject | The total number of packets which were rejected due to congestion control. |
| Congestion Drop | The total number of packets which were dropped due to congestion control. |
| Total Cookie Error | Total errors in cookie challenge. Refer to the detailed counters in IKEv2 section. |
| Total Auth Failures | Total errors due to authentication failures during IKE_AUTH exchanges. |
| IKEv2 Statistics | |
| Current state: | <ul style="list-style-type: none"> • Current IKEv2 SAs • Current half-open IKEv2 SAs • Current connecting IKEv2 SAs • Current established IKEv2 SAs • Current child SAs |

| Field | Description |
|-------------------------|---|
| IKEv2 Timer Stats | <ul style="list-style-type: none"> • Total IKESA Retrans expirations • Total IKESA Setup expirations (no exchange) • Total IKESA Setup expirations • Total IKESA Lifetime (soft) expirations • Total IKESA Lifetime (hard) expirations • Total TSELSA Lifetime (soft) expirations • Total TSELSA Lifetime (hard) expirations |
| IKEv2 Exchanges dropped | <ul style="list-style-type: none"> • Total IKEv2 Resp Pkts Drop - No IKESA • Total invalid resp • Total non-init exch drop--no IKESA • Total invalid message ID • Total invalid major version • Total IKESA error • Total unknown critical payload |
| IKEv2 Cookie Statistics | <ul style="list-style-type: none"> • Total cookie notify packets sent • Total cookie notify packets received • Total cookie notify match • Total cookie notify not match |
| IKEv2 Rekey Statistics | <ul style="list-style-type: none"> • Total IKESA Rekey sent • Total IKESA Rekey received • Total IKESA Rekey ignored • Total ChildSA Rekey sent • Total ChildSA Rekey received • Total ChildSA Rekey ignored |
| IKEv2 MOBIKE Statistics | <ul style="list-style-type: none"> • Total MOBIKE notify sent • Total MOBIKE received • Total Mobike ignored |
| IKEv2 Misc Statistics | <ul style="list-style-type: none"> • Total SA create failure • Total SA flow operation failure • Total NAT Keepalive received • Total Invalid-KE notify sent • Total Invalid-KE notify received • Total Invalid-msgID notify received • Total No-Prop-Chosen notify sent • Total No-Prop-Chosen notify received |

| Field | Description |
|--|--|
| IKEv2 Exchange Decode failure statistics | <ul style="list-style-type: none"> • Total pkts failure • Total internal errors • Total invalid IP HDR • Total invalid UDR HDR • Total invalid IKE HDR • Total invalid IKE HDR payload • Total invalid IKE HDR MJ ver • Total invalid IKE HDR MN ver • Total invalid IKE HDR exchange type • Total invalid IKE HDR Rsvd flag • Total invalid IKE HDR length • Total invalid payload syntax • Total invalid payload len • Total unknown crit payload • Total too many payloads • Total invalid SA payload len • Total invalid SA proposal HDR • Total invalid SA proposal HDR Reserved • Total too many transforms • Total invalid SA proposal HDR len • Total too many proposals • Total invalid protocol ID • Total invalid first SA proposal num • Total invalid SA proposal num • Total invalid transform len • Total invalid transform HDR • Total invalid transform HDR Rsvd • Total invalid transform type • Total invalid transform ID |

| Field | Description |
|--|---|
| IKEv2 Exchange Decode failure statistics (continued) | <ul style="list-style-type: none"> • Total invalid KE payload len • Total invalid KE DH Group len • Total invalid ID payload type • Total invalid ID payload len • Total invalid KE DH group • Total invalid KE DH groups • Total invalid Transform ID • Total invalid auth payload len • Total invalid nonce payload len • Total invalid notify payload len • Total invalid notify payload SPI size • Total Invalid Notify payload Proto ID • Total invalid notify payload NATT • Total invalid notify payload Cookie • Total Invalid notify payload Rekey • Total invalid notify payload NATT • Total invalid notify payload Cookie • Total invalid notify payload Rekey • Total invalid EAP payload len • Total invalid CP payload len • Total invalid CP payload attr len • Total invalid payload unknown attr • Total invalid Encrypted Payload len • Total invalid TS payload len • Total invalid TS payload Rsvd • Total invalid TS payload TS-type • Total unsupported crit payload • Total unsupported cert payload • Total unsupported Auth method |
| IKEv2 Exchange Decode failure statistics (continued) | <ul style="list-style-type: none"> • Total unsupported SA payload Prot AH • Total unsupported Notify Prot AH • Total unsupported payload Crit VID • Total unsupported TS payload TS_Type • Total unsupported method • Total unknown error |
| IKEv2 Decrypt Failure statistics | <ul style="list-style-type: none"> • Total Pkts failure • Total HMAC mismatch • Total pad length error |

| Field | Description |
|-----------------------|---|
| IKEv2 Xchg statistics | <ul style="list-style-type: none"> • Total Bad Msg ID • Total bad response • Total stale message ID • Total unknown error • Total state lookup failure |

show crypto statistics ikev2 service-name

Table 211: show crypto statistics IKEv2 service-name Command Output Descriptions

| Field | Description |
|---|--|
| Flow Counts | |
| Current UDP flows | The total number of UDP port based flows in the data path. |
| Current Cookie flows | The total number of cookie challenge based flows in the data path. |
| Transmit Statistics | |
| IKE Packets | The total number of total IKE packets transmitted. |
| Receive Statistics | |
| IKE Packets Received | The total number of IKE packets received. |
| New IKE Requests | The total number of IKE packets sent for new IKE requests. |
| UDP flow Packets | The total number of packets that matched the UDP flow. |
| Cookie flow Packets | The total number of packets that matched the cookie flow. |
| Rekey Statistics | |
| IKE Rekeys | The total number of successful IKE_SA rekeys. |
| Dead Peer Detection (DPD) Statistics | |
| Requests sent | The total number of DPD R-U-THERE packets sent. |
| Replies received | The total number of DPD R-U-THERE-ACK packets received. |
| Requests received | The total number of DPD R-U-THERE packets received. |
| Replies sent | The total number of DPD R-U-THERE-ACK packets sent. |
| Collisions | The total number of events that IKEv2 keepalive exchanges occur simultaneously from the PDIF and the MS. |

| Field | Description |
|--|---|
| Disconnects | The total number of DPD disconnects that occurred between the peers. |
| Timeouts | The total number of DPD protocol messages that have exceeded their configured timeout period. |
| NAT-T Statistics | |
| Keepalives sent | The total number of NAT-T keepalive packets sent. |
| Detailed IKE Statistics | |
| Active IKE SAs | The total number of IKE SAs. |
| Initiated | The total number of the active SAs initiated locally. |
| Responded | The total number of the active SAs responded. |
| Total IKE SAs so far | The total number of SAs (cumulative history). |
| Initiated | The total cumulative IKE SAs initiated locally. |
| Responded | The total cumulative IKE SAs responded to. |
| Total attempts so far | The total cumulative attempts made to establish SAs. |
| Initiated | The total number of SA establishment attempts initiated locally. |
| Responded | The total number of SA establishment attempts responded to. |
| Total deletes so far | The total cumulative deletes so far. |
| Requests received | The total number of requests received. |
| Requests sent | The total number of requests sent. |
| Replies received | The total number of replies received. |
| Replies sent | The total number of replies sent. |
| Total packets in | The total cumulative IKEv2 packets received. |
| Total packets out | The total cumulative IKEv2 packets sent. |
| Total octets in | The total cumulative IKEv2 octets received. |
| Total octets out | The total cumulative IKEv2 octets sent. |
| Failed initiated negotiations with errors | The total number of initiated negotiations that failed because of errors. |
| Failed initiated negotiations with time out: | The total number of initiated negotiations that failed because of timeouts (no response). |

| Field | Description |
|---|---|
| Failed responded negotiations with errors | The total number of responded negotiations that failed because of errors. |
| Total cookie errors | The total number of cookie errors encountered. |
| Congestion rejects | The total number of packets rejected due to congestion. |
| Congestion drops | The total number of packets dropped due to congestion. |
| Total Unknown Exchange SPI | The total number of unknown exchange SPIs. |
| IKEv2 Detail Statistics | |
| Current State | |
| Current IKEv2 SAs | The number of current IKEv2 SAs. |
| Current Half-Open IKEv2 SAs | The number of IKEv2 SAs in a half-open state. |
| Current Connecting IKEv2 SAs | The number of IKEv2 SAs currently connecting. |
| Current Established IKEv2 SAs | The number of established IKEv2 SAs. |
| Current Child SAs | The number of current child SAs. |
| Total IKEv2 Timer Statistics | |
| IKESA Retrans Expirations | The total number of retransmission expirations. |
| IKESA Setup Expirations (no Xchg) | The number of IKESA setups that expired with no exchange. |
| IKESA Setup Expirations | The total number of IKESA Session setups expired. |
| IKESA Lifetime (Soft) Expirations | The number of IKESA soft lifetime timer expirations. |
| IKESA Lifetime (Hard) Expirations | The number of IKESA hard lifetime timer expirations. |
| CHILD_SA Setup Expirations (no Xchg) | The number of Child SA setups that expired with no exchange. |
| CHILD_SA Lifetime (Soft) Expirations | The number of Child SA soft lifetime timer expirations. |
| CHILD_SA Lifetime (Hard) Expirations | The number of Child SA hard lifetime timer expirations. |
| Total IKEv2 Multiple Authentication Statistics | |
| Phase 1 Auth Successes | The number of multi-auth Phase 1 EAP authentication successes. |
| Phase 1 Auth Failures | The number of multi-auth Phase 1 EAP authentication failures. |
| Phase 1 Auth Req Sent | The number of multi-auth Phase 1 EAP authentication requests sent. |
| Phase 1 Auth Resp Rcvd | The number of multi-auth Phase 1 EAP authentication responses received. |

| Field | Description |
|--------------------------------------|---|
| Phase 2 Auth Successes | The number of multi-auth Phase 2 EAP authentication successes. |
| Phase 2 Auth Failures | The number of multi-auth Phase 2 EAP authentication failures. |
| Phase 2 Auth Req Sent | The number of multi-auth Phase 2 EAP authentication requests sent. |
| Phase 2 Auth Resp Rcvd | The number of multi-auth Phase 2 EAP authentication responses received. |
| Phase 2 Auth MD5 Successes | The number of multi-auth Phase 2 EAP authentication with MD5 successes. |
| Phase 2 Auth MD5 Failures | The number of multi-auth Phase 2 EAP authentication with MD5 failures. |
| Phase 2 Auth GTC Successes | The number of multi-auth Phase 2 EAP authentication with GTC mode successes. |
| Phase 2 Auth GTC Failures | The number of multi-auth Phase 2 EAP authentication with GTC mode failures. |
| Hash match failures | The number of hash match failures. |
| Signing failures | The number of signing failures. |
| MSK missing at phase 1 comp | The number of EAP Master Session Keys (MSK) not found. |
| Miss Another Auth Follows | The number of missed authentications that follow. |
| Total IKEv2 Exchanges Dropped | |
| Resp Pkts Drop - No IKESA | The number of IKEv2 response packets dropped without an IKEv2 SA being created. |
| Invalid Resp | The total number of invalid response messages. |
| Non-Init Exch Drop - No IKESA | The total number of IKEv2 exchanges dropped without an IKEv2 SA being created. |
| Invalid MSG ID | The total number of sessions dropped due to packets with invalid MSG ID. |
| Invalid Major Version | The total number of sessions dropped due to packets with invalid major version. |
| IKESA error | The total number of IKESA error messages. |
| Unknown Crit Payload | The total number of unknown critical payload messages. |

| Field | Description |
|--------------------------------------|---|
| Retransmitted request | IKEV2 Stack does not process the packets in the order they are received. New packets are queued if any packet is under processing. After completing the processing, stack consider processing the packets queue first instead of taking the latest packet received from network directly and leaving the packets in queue for later. And if any message is received with same message ID which is currently under processing, then that message will be discarded as retransmitted message received. The count for such request is 'Retransmitted Request'. |
| Total IKEv2 Notify Statistics | |
| Cookie Notify Sent | The total number of IKEv2 Denial of Service (DoS) cookie notify packets sent. |
| Cookie Notify Received | The total number of IKEv2 DoS cookie notify packets received. |
| Cookie Notify Match | The total number of IKEv2 DoS cookie notify messages that match. |
| Cookie Notify Not Match | The total number of IKEv2 DoS cookie notify messages that do not match. |
| Multi Auth Supported | The total number of multiple authentications supported. |
| Another Auth Follows | The total number of authentications that follow. |
| Total IKEv2 Rekey Statistics | |
| IKESA Rekey Sent | The total number of IKESA Rekey Request messages sent. |
| IKESA Rekey Rcvd | The total number of IKESA Rekey Request messages received. |
| IKESA Rekey Ignored | The total number of IKESA Rekey messages ignored. |
| ChildSA Rekey Req Sent | The total number of Child SA Rekey Request messages sent. |
| ChildSA Rekey Req Rcvd | The total number of Child SA Rekey Request messages received. |
| ChildSA Rekey Rsp Sent | The total number of Child SA Rekey Response messages sent. |
| ChildSA Rekey Rsp Rcvd | The total number of Child SA Rekey Response messages received. |
| ChildSA Rekey Ignored | The total number of Child SA Rekey messages ignored. |
| Total IKEv2 MOBIKE Statistics | |
| MOBIKE Notify Sent | The total number of MOBIKE notify messages sent. MOBIKE is not supported. All MOBIKE messages are treated as if they were never received. |
| MOBIKE Rcvd | The total number of MOBIKE packets received. |

| Field | Description |
|---|---|
| MOBIKE Ignored | The total number of MOBIKE packets dropped. |
| Total IKEv2 Misc Statistics | |
| SA Create Failure | The total number of SA creations failed. |
| SA Flow Operation Failure | The total number of SA flow operations failed. |
| Total IKEv2 Notify Payload Sent Statistics | |
| Invalid KE Payload | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid KE Payload. |
| Invalid Major Version | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Major Version. |
| Invalid Message ID | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Message ID. |
| Invalid Syntax | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Syntax. |
| No Additional SAs | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type No Additional SAs. |
| No Proposal Chosen | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type No Proposal Chosen. |
| TS Unacceptable | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type TS Unacceptable. |
| Unsupported Critical Payload | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Unsupported Critical Payload. |
| Internal Failure Sent | The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Internal Failure Sent. |
| Total IKEv2 Notify Payload Received Statistics | |
| Invalid KE Payload | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid KE Payload. |
| Invalid Major Version | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Major Version. |
| Invalid Message ID | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Message ID. |
| Invalid Syntax | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Syntax. |
| No Additional SAs | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type No Additional SAs. |

| Field | Description |
|---|---|
| No Proposal Chosen | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type No Proposal Chosen. |
| TS Unacceptable | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type TS Unacceptable. |
| Unsupported Critical Payload | The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Unsupported Critical Payload. |
| IKEv2 Exchange Decode Failure Statistics | |
| Packet Failures | The number of IKEv2 packets that fail to decode. |
| Internal Errors | The total number of failures due to internal errors. |
| Invalid IP HDR | The total number of failures due to an invalid IP header. |
| Invalid UDP HDR | The total number of failures due to an invalid UDP header. |
| Invalid IKE HDR | The total number of failures due to an invalid IKE header. |
| Invalid IKE HDR Payload | The total number of failures due to an invalid IKE header payload. |
| Invalid IKE HDR Init SPI | The total number of failures due to an invalid IKE header initiator security parameter index. |
| Invalid IKE HDR Resp SPI | The total number of failures due to an invalid IKE header responder security parameter index. |
| Invalid IKE HDR Major Ver | The total number of failures due to an invalid IKE header major version. |
| Invalid IKE HDR Minor Ver | The total number of failures due to an invalid IKE header minor version. |
| Invalid IKE HDR Xchg Type | The total number of failures due to an invalid IKE header exchange type. |
| Invalid IKE HDR Rcvd Flag | The total number of failures due to an invalid IKE header received flags. |
| Invalid IKE HDR Len | The total number of failures due to an invalid IKE header length. |
| Invalid Syntax | The total number of failures due to an invalid syntax. |
| Invalid Payload Syntax | The total number of failures due to an invalid payload syntax. |
| Invalid Payload Len | The total number of failures due to an invalid payload length. |
| Unknown Crit Payload | The total number of failures due to an unknown critical payload. |
| Too many payloads | The total number of failures due to many payloads. |
| Invalid SA Payload Len | The total number of failures due to an invalid SA payload length. |

| Field | Description |
|-------------------------------|--|
| Invalid SA Proposal HDR | The total number of failures due to an invalid SA proposal header. |
| Invalid SA Proposal HDR Rcvd | The total number of failures due to an invalid SA proposal header received. |
| Too many transforms | The total number of failures due to many transform-sets in the SA payload. |
| Invalid SA Proposal HDR Len | The total number of failures due to an invalid SA proposal header length. |
| Too many proposals | The total number of failures due to many proposals in SA payload. |
| Invalid first SA Proposal num | The total number of failures due to an invalid first SA proposal number. |
| Invalid SA Proposal ID | The total number of failures due to an invalid Protocol ID in SA payload. |
| Invalid SA Proposal num | The total number of failures due to an invalid SA proposal number. |
| Invalid Transform Len | The total number of failures due to an invalid transform-set length. |
| Invalid Transform HDR | The total number of failures due to an invalid transform-set header. |
| Invalid Transform HDR Rcvd | The total number of failures due to an invalid transform-set header received. |
| Invalid Transform Type | The total number of failures due to an invalid transform-set type. |
| Invalid Transform ID | The total number of failures due to an invalid transform-set ID. |
| Invalid KE Payload Len | The total number of failures due to an invalid key exchange payload length. |
| Invalid KE DH Group | The total number of failures due to an invalid key exchange Diffie-Hellman group number. |
| Invalid KE DH Group Len | The total number of failures due to an invalid ID payload length. |
| Invalid ID Pld Len | The total number of failures due to an invalid ID payload length. |
| Invalid ID Pld Type | The total number of failures due to an invalid ID payload type. |
| Invalid ID Pld Data | The total number of packets for which ID payload syntax validation has failed. |
| Invalid Auth Pld Len | The total number of failures due to an invalid authorization payload length. |
| Invalid Nonce Payload Len | The total number of failures due to an invalid nonce payload length. |

| Field | Description |
|---------------------------------|--|
| Invalid Notify Payload Len | The total number of failures due to an invalid notify payload length. |
| Invalid Notify Payload SPI Len | The total number of failures due to an invalid notify payload security parameter index size. |
| Invalid Notify Payload NAT | The total number of failures due to an invalid notify payload Network Address Translation-Traversal. |
| Invalid Notify payload Proto Id | The total number of failures due to an invalid notify payload protocol ID. |
| Invalid EAP Payload len | The total number of failures due to an invalid Encapsulation Authentication Protocol payload length. |
| Invalid Notify Payload Rekey | The total number of failures due to an invalid notify payload rekey. |
| Invalid CP Payload len | The total number of failures due to an invalid CP payload length. |
| Invalid Notify Payload Cookie | The total number of failures due to an invalid notify payload cookie. |
| Invalid TS Payload len | The total number of failures due to an invalid transform-set payload length. |
| Invalid CP Payload Attr Len | The total number of failures due to an invalid CP payload unknown attribute length. |
| Invalid TS Payload Rcvd | The total number of failures due to an invalid transform-set payload received. |
| Invalid Encrypted Payload Len | The total number of failures due to an invalid encrypted payload length. |
| Invalid TS payload TS-Type | The total number of failures due to an invalid transform-set payload transform-set type. |
| Unsupported Crit Payload | The total number of failures due to an unsupported critical payload. |
| Unsupported Cert Payload | The total number of failures due to an unsupported certified payload. |
| Unsupported Notify Prot AH | The total number of failures due to an unsupported notify payload protocol Authentication Header. |
| Unsupported Auth method | The total number of failures due to an unsupported authentication method. |
| Unsupported Payload Crit VID | The total number of failures due to an unsupported payload critical V-LAN ID. |
| Unsupported method | The total number of failures due to an unsupported method. |

| Field | Description |
|---|---|
| Unknown Error | The total number of failures due to an unknown error. |
| Unsupported SA Payload Prot AH | The total number of failures due to an unsupported SA payload protocol Authentication Header. |
| Unsupported TS payload TS-Num | The total number of failures due to an unsupported transform-set payload number. |
| Unsupported TS Payload TS-Type | The total number of failures due to an unsupported transform-set payload transform-set-type. |
| Unsupported TS Payload TS-Prot | The total number of failures due to an unsupported transform-set payload protocol. |
| Unsupported CP Payload No IP Attr | The total number of failures due to an invalid CP because of no available IP attribute. |
| Invalid CP Payload UNK ATTR | The total number of failures due to an invalid CP because of an unknown attribute. |
| Total IKEv2 Decrypt Failure Statistics | |
| Packets Failure | The total number of session failures due to packets that failed to decrypt. |
| HMAC mismatch | The total number of session failures due to a HMAC mismatch. |
| Pad length error | The total number of failures due to a pad length error in the packet. |
| Total IKEv2 Xchg Statistics | |
| Bad Msg Id | The total number of session failures due to a bad message ID. |
| Bad Response | The total number of session failures due to a bad response. |
| Stale Msg ID | The total number of session failures due to a stale message ID. |
| Unknown error | The total number of session failures due to unknown errors. |
| Stale Lookup Failure | The total number of session failures due to a stale lookup failure. |
| Combined Crypto map Statistics | |
| Current Tunnels | The number of tunnels currently connected by the SA. |
| Current Tunnels Established | The number of tunnels successfully connected by the SA. |
| IKE Fails | The total number of tunnels that failed to be connected by the SA. |
| Total Tunnels | The total number of tunnels connected by the SA. |
| Total Tunnels Established | The total number of tunnels successfully connected by the SA. |
| Call Req Rejects | The total number of call request reject messages. |

show crypto template summary

Table 212: show crypto template summary Command Output Descriptions

| Field | Description |
|--------------------------|---|
| Total Crypto maps | |
| Configured maps | The total number of crypto maps configured in this context. |
| Service maps | The total number of service maps. There is one map per service. |
| Subscriber maps | The total number of subscriber maps. |
| Map Types: | |
| ipsec-dynamic | The total number of dynamic IPsec tunnel crypto maps. |
| ipsec-ikev1 | The total number of IKEv1 IPsec tunnel crypto maps. |
| ipsec-ikev1pst-subscr | The total number of IKEv1 PST subscriber tunnel maps. |
| ipsec-ikev2 | The total number of IKEv2 subscriber tunnel crypto maps. |
| ipsec-ikev2-subscriber | The total number of IKEv2 subscriber tunnel crypto maps. |
| ipsec-l2tp | The total number of L2TP IPsec tunnel crypto maps. |
| ipsec-manual | The total number of manual (static) IPsec tunnel crypto maps. |
| ipsec-mobile-ip | The total number of mobile IP IPsec tunnel crypto maps. |
| IKEv2 SA: | |
| Cipher 3des | The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-128 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-256 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode. |
| Cipher des | The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher null | The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear. |

| Field | Description |
|-------------------|---|
| DH Group 1 | The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 2 | The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 5 | The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 14 | The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| HMAC aes-xcbc-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) using the AES block cipher with a block size of 128 bits. |
| HMAC md5-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits. |
| HMAC sha2-256-128 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-256 algorithm truncated to 128 bits. |
| HMAC sha2-384-192 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-384 algorithm truncated to 192 bits. |
| HMAC sha2-512-256 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-512 algorithm truncated to 256 bits. |
| PRF sha1 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Secure Hash Algorithm-1. |
| PRF aes-xcbc-128 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) in conjunction with Advanced Encryption Standard (AES) with a key length restriction of 128 bits. |

| Field | Description |
|--------------------|--|
| PRF md5 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Message Digest 5. |
| PRF sha2-256 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 256 bits. |
| PRF sha2-384 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 384 bits. |
| PRF sha2-512 | The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 512 bits. |
| IPSec SA | |
| Protocol esp | The total number of IPsec security associations using Encapsulating Security Payload (ESP) protocol. |
| Protocol ah | The total number of IPsec security associations using Authentication Header (AH) protocol. |
| Cipher 3des | The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-129 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 129-bit key in Cypher Block Chaining (CBC) mode. |
| Cipher aes-cbc-256 | The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode. |
| Cipher des | The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode. |
| Cipher null | The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear. |
| DH Group 1 | The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |

| Field | Description |
|------------------|---|
| DH Group 2 | The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 5 | The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| DH Group 14 | The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group. |
| HMAC aes-xcbc-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) using the AES block cipher with a block size of 128 bits. |
| HMAC md5-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits. |
| HMAC sha1-96 | The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits (the default). |



CHAPTER 38

show cs-network

This chapter includes the **show cs-network** command output tables.

- [show cs-network all status, on page 725](#)
- [show cs-network statistics ranap-only, on page 727](#)
- [show cs-network statistics sccp-only, on page 733](#)

show cs-network all status



Important

In Release 20 and later, HNBNW is not supported. For more information, contact your Cisco account representative.

Table 213: show cs-network all status Command Output Descriptions

| Field | Description |
|--------------------------|---|
| CS Network name | Indicates the name of the Circuit Switched (CS) network instance for which status is displayed. |
| Associated SCCP-Network | Indicates the name of the Signalling Connection Control Part (SCCP) network service instance which is associated with the referenced CS network instance. |
| Associated Alcap-Service | Indicates the name of the Access Link Control Application Protocol (ALCAP) service instance which is associated with the referenced CS network instance. |
| Alcap Context Name | Indicates the name of the context in which the ALCAP service instance is configured. |
| Associated RTP Pool | Indicates the name of the RTP IP pool configured and associated with the referenced CS network instance for RTP stream management. |
| RTP Pool Context Name | Indicates the name of the context in which the RTP IP pool is configured for RTP stream management. |

| Field | Description |
|---|---|
| MSC Point Code | Indicates the address of MSC in SS7 point code notation which is serving the referenced CS network instance. |
| Status | Indicates the status of MSC which is serving the referenced CS network instance. |
| Network Status | Indicates the status of network in which the referenced CS network instance is placed. |
| RTP IP Addresses | Indicates the session manager instances and associated IP pools with them for RTP stream management support. |
| NRI | Indicates the Network Resource Identification (NRI) bit configuration status for the referenced CS network. |
| IDNNS | Indicates the Intra-Domain NAS Node Selector (IDNNS) configuration status for the referenced CS network to transport the NRI value. |
| Lac range <nnn> to <nnn> MSC Point-code <x.x.x> | Indicates the mapping configured between MSC point-code and range of LAC for multiple MSC selection without Iu-Flex in CS network. |
| CORE NODE MAP | Indicates the core node mapping configuration status for the referenced CS network. |
| Initiated Ranap Reset | Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Ranap Reset Ack Timer | The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the MSC after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Ranap Reset Maximum Retransmissions | Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the MSC if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |

| Field | Description |
|-------------------------|--|
| Ranap Reset Guard Timer | The timer that the HNB-GW starts after receiving a RESET message from the CS core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Global RNC-Id | This group displays the information related to global Radio Network Controller settings for use by the CS core network for HNB-GW service(s) on a chassis. It is configured under the PLMN-ID. |
| MCC | The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID. |
| MNC | The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID. |
| Id | The Radio Network Controller ID provided to HNBS for use by the CS core network for this HNB-GW service. It is configured under the PLMN-ID |

show cs-network statistics ranap-only

Table 214: show cs-network statistics ranap-only Command Output Descriptions

| Field | Description |
|--------------------|---|
| RANAP | This group displays the statistics of RANAP in a CS network on chassis. |
| Initial UE Tx | Total number of initial UE requests transmitted. |
| Direct Transfer Rx | Total number of Direct Transfer requests received. |
| Direct Transfer Tx | Total number of Direct Transfer responses sent. |
| Reset Rx | Total number of RESET requests received. |
| Reset Tx | Total number of RESET responses sent. |
| Reset Ack Rx | Total number of RESET Ack requests received. |
| Reset Ack Tx | Total number of responses against RESET Ack request sent. |
| Reset Resource Rx | Total number of RESET RESOURCE requests received. |
| Reset Resource Tx | Total number of RESET RESOURCE responses sent. |

| Field | Description |
|------------------------------|---|
| Reset Resource Ack Rx | Total number of RESET RESOURCE Ack requests received. |
| Reset Resource Ack Tx | Total number of responses against RESET RESOURCE Ack request sent. |
| Iu Release Request Tx | Total number of Iu RELEASE requests sent. |
| Iu Release Command Rx | Total number of Iu RELEASE command received. |
| Iu Release Complete Tx | Total number of Iu RELEASE Complete response sent. |
| Paging Request Rx | Total number of Paging requests received. |
| RAB Assignment Request Rx | Total number of RAB assignment requests received. |
| RAB Setup/Mod Rx | Total number of RAB setup or modification requests received. |
| RAB Release Rx | Total number of RAB Release requests received. |
| RAB Assignment Response Tx | Total number of responses against RAB assignment requests sent. |
| RAB Setup/Mod Success Tx | Total number of RAB setup or modification Success response sent. |
| Total RAB Setup/Mod Fail Tx | Total number of RAB setup or modification Fail response sent. |
| RAB Setup/Mod Fail(Local) Tx | Total number of RAB setup or modification Fail response sent where RAB setup or modification failed due to local reason/cause. |
| RAB Release Success Tx | Total number of RAB Release Success response sent. |
| Total RAB Release Fail Tx | Total number of RAB Release Success response sent. |
| RAB Release Fail(Local) Tx | Total number of RAB Release Fail response sent where RAB Release failed due to local reason/cause. |
| RAB Queued Tx | Total number of RAB messages queued for transmission. |
| RAB Setup/Mod Timer Exp | Total number of instances where RAB setup/modification timer expired before process of request. |
| RAB Release Timer Exp | Total number of instances where RAB Release timer expired before process of request. |
| RAB Set/Mod/Rel Local Fail | This group displays the total number of RAB setup or modification or release requests failed due to local reason/cause. |
| Local Failure Cause | This group identifies the local cause for RAB setup or modification or release request failure. |
| Radio Network Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in radio network layer. |

| Field | Description |
|------------------------------|---|
| Invalid Rab Id | Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer. |
| Interaction With Other Proc | Total number of RAB setup or modification or release requests failed as system was interacting with another process. |
| Transport Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Transport layer. |
| Sig Trans Res Fail | Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer. |
| Iu Tran Conn failed to Estab | Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer. |
| Protocol Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Protocol layer. |
| Transfer syntax error | Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer. |
| Asn error(Reject) | Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer. |
| Asn error | Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer. |
| Msg not comp with Rcvr state | Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer. |
| Semantic error | Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer. |
| Asn error(Falsey const msg) | Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer. |
| Miscellaneous Cause | This group identifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table). |
| No Resource Available | Total number of RAB setup or modification or release requests failed due to non availability of resource. |
| Unspecified | Total number of RAB setup or modification or release request failure due to unspecified cause (not listed in this table). |

| Field | Description |
|------------------------------|--|
| <codec_name> Codec | This group displays the total number of RAB setup or modification or release request failure grouped in Codec name <codec_name>. Following groups are supported: <ul style="list-style-type: none"> • UMTS AMR Codec • UMTS AMR2 Codec • Other Codec • No Codec • Unknown Codec |
| RAB Setup/Mod Rx | Total number of RAB setup or modification requests received for specific codec. |
| RAB Setup/Mod Success Tx | Total number of RAB setup or modification success messages sent for specific codec. |
| RAB Release Rx | Total number of RAB Release requests received for specific codec. |
| Total RAB Setup/Mod Fail Tx | Total number of RAB setup or modification failure messages sent for specific codec. |
| RAB Setup/Mod Fail(Local) Tx | Total number of RAB setup or modification failure messages sent for specific codec where RAB setup or modification failed due to local reason/cause. |
| RAB Release Success Tx | Total number of RAB Release success messages sent for specific codec. |
| Total RAB Release Fail Tx | Total number of RAB Release fail messages sent for specific codec. |
| RAB Release Fail(Local) Tx | Total number of RAB Release fail messages sent for specific codec where RAB setup or modification failed due to local reason/cause. |
| RAB Queued Tx | Total number of RAB messages queued for processing or transmission. |
| Relocation Request Rx | Total number of RAB Relocation request received by system for this CS network. |
| RAB Setup Rx | Total number of RAB Relocation setup request received by system for this CS network. |
| Relocation Request ACK Tx | Total number of RAB Relocation Ack messages sent against setup request received by system for this CS network. |
| RAB Setup Success Tx | Total number of RAB setup success messages sent against setup request received by system for this CS network. |
| Total RAB Setup Fail Tx | Total number of RAB setup fail messages sent against setup request received by system for this CS network. |

| Field | Description |
|------------------------------|---|
| RAB Setup Fail(Local) Tx | Total number of RAB setup failure messages sent from this system where RAB setup or modification failed due to local reason/cause. |
| Local Failure Cause | This group identifies the local cause for RAB setup or modification or release request failure. |
| Radio Network Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in radio network layer. |
| Invalid Rab Id | Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer. |
| Interaction With Other Proc | Total number of RAB setup or modification or release requests failed as system was interacting with another process. |
| Transport Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Transport layer. |
| Sig Trans Res Fail | Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer. |
| Iu Tran Conn failed to Estab | Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer. |
| Protocol Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Protocol layer. |
| Transfer syntax error | Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer. |
| Asn error(Reject) | Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer. |
| Asn error | Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer. |
| Msg not comp with Rcvr state | Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer. |
| Semantic error | Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer. |
| Asn error(Falsely const msg) | Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer. |

| Field | Description |
|-----------------------------|---|
| Miscellaneous Cause | This group identifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table). |
| No Resource Available | Total number of RAB setup or modification or release requests failed due to non availability of resource. |
| Unspecified | Total number of RAB setup or modification or release request failure due to unspecified cause (not listed in this table). |
| <codec_name> Codec | This group displays the total number of RAB Setup request grouped in Codec name <codec_name>. |
| RAB Setup Rx | Total number of RAB setup requests received for specific codec. |
| RAB Setup Success Tx | Total number of RAB setup success messages sent for specific codec. |
| Total RAB Setup Fail Tx | Total number of RAB setup failure messages sent for specific codec. |
| RAB Setup Fail(Local) Tx | Total number of RAB setup failure messages sent for specific codec where RAB setup failed due to local reason/cause. |
| Relocation Detect Tx | Total number of RAB Relocation Detect messages sent by system in this CS network. |
| Relocation Required Tx | Total number of RAB Relocation Required request messages sent by system in this CS network. |
| Fwd SRNS Context Request Tx | Total number of FWD SRNS Context request messages sent by system in this CS network. |
| Relocation Prep Failure Rx | Total number of Relocation Preparation failure response messages sent by system in this CS network. |
| Relocation Cancel Tx | Total number of Relocation cancel command messages received by system in this CS network. |
| Relocation Command Rx | Total number of Relocation command messages received by system in this CS network. |
| Srns Context Request Rx | Total number of SRNS Context Request messages received by system in this CS network. |
| Srns Context Response Tx | Total number of response sent for SRNS Context Request messages received by system in this CS network. |

show cs-network statistics sccp-only



Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 215: show cs-network statistics sccp-only Command Output Descriptions

| Field | Description |
|----------------------------|---|
| SCCP | This group displays the statistics of SCCP in a CS network on chassis. |
| SCCP Connection Request Rx | Total number of SCCP connection Request received by HNB-GW from the Core Node. This counter changes when Core Node initiates SCCP connection during Relocation. |
| SCCP Connection Request Tx | Total number of SCCP connection Request sent by HNB-GW towards the CN after getting RUA Connect Request for a Registered UE. This counter changes when RUA Connect Request sent for a Registered UE. |
| SCCP Connection Confirm Rx | Total number of SCCP Connection Confirmation messages received by HNB-GW from the Core Node. This counter changes when CN sends the SCCP connection confirmation for a requested SCCP Connection Request. |
| SCCP Connection Confirm Tx | Total number of SCCP Connection Confirmation response messages sent by HNB-GW to the Core Node. This counter changes when HNB-GW sends the SCCP connection confirmation response for a requested SCCP Connection Request to CN. |
| SCCP Connection Reject Rx | Total number of SCCP Connection Reject messages received by HNB-GW from the Core Node. This counter changes when Core node Rejects the SCCP Conn Request due to some parameter mismatch, etc. |
| SCCP Connection Reject Tx | Total number of SCCP Connection Rejection response messages sent by HNB-GW to the Core Node. This counter changes when HNBGW initiates the tear Down on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios. |

| Field | Description |
|-------------------------|--|
| SCCP Connection Data Rx | Total data received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends the data towards HNB-GW over SCCP connection. |
| SCCP Connection Data Tx | Total data sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends the data towards CN over SCCP connection. |
| SCCP Disconnect Rx | Total number of SCCP Disconnect messages received by HNB-GW from Core Node. This counter changes when CN initiate tear-down procedure for SCCP connection. |
| SCCP Disconnect Tx | Total number of SCCP Disconnect response messages sent by HNB-GW to Core Node. This counter changes when HNBGW initiates the tear-down procedure on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios. |
| SCCP Uni Data Rx | Total Connection-less data, like paging, received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends any connection-less data, like paging, towards HNB-GW over SCCP connection. |
| SCCP Uni Data Tx | Total Connection-less data, RANAP Reset, RANAP reset Resource, sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends or forward any Connection-less data, like RANAP reset, RANAP Reset Resource, towards CN over SCCP connection. |



CHAPTER 39

show cscf

This chapter includes the **show cscf** command output tables.

- [show cscf nat media mapping all](#), on page 735
- [show cscf peer-servers full](#), on page 736
- [show cscf service li-packet-cable statistics](#), on page 737
- [show cscf service statistics name <service_name> all](#), on page 737
- [show cscf sessions counters](#), on page 759
- [show cscf sessions duration](#), on page 761
- [show cscf sip statistics](#), on page 763
- [show cscf tcp connections](#), on page 768

show cscf nat media mapping all

Table 216: show cscf nat media mapping all Command Output Descriptions

| Field | Description |
|-------------------|--|
| UE-Origin | The IP address and port number of the UE origin. |
| UE-Destination | The IP address and port number of the UE destination. |
| Nwk-Origin | The IP address and port number of the network origin. |
| Nwk-Destination | The IP address and port number of the network destination. |
| Nwk-Core-context | The context in which the network core configuration resides. |
| UE-Access-context | The context in which the UE access configuration resides. |

show cscf peer-servers full

Table 217: show cscf peer-servers full Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Peer-Server name | The name of the peer server group. |
| Context | The context in which the peer server group configuration resides. |
| Server type | The type of servers in the peer server group. |
| Hunting-method | The hunting method used by the servers in the peer server group. |
| server | The name of the peer server. |
| Address | The IP address of the peer server expressed in IPv4 or IPv6 dotted decimal notation. |
| domain | The domain name of the peer server. |
| Monitor status | The monitoring status of the peer servers as determined by the CLI command Enabled/Disabled. |
| monitor-interval (seconds) | The time period, in seconds, between monitor intervals. |
| monitor-message | The SIP message (OPTIONS) to be sent after each monitoring interval. |
| monitor-response-timer (seconds) | The response wait timer, in seconds, for each monitor message. |
| Server mode | The mode of the peer server as determined by the CLI command Active/Standby. |
| Server status | The status of the peer server. Possible statuses are: <ul style="list-style-type: none"> • OUT_OF_SERVICE — Peer server mode changed to standby through CLI command. • AVAILABLE — Peer server mode is Active and peer server sends response to monitor message. • UNAVAILABLE— Peer server mode is Active, however, peer server does not send response to monitor message. |
| Network session template | Binds the nw-session-template name with the peer server. |
| IMS Capable | Indicates if the peer server is ims-capable or not. |
| Request Rx | The number of requests received by the sip-as peer server from S-CSCF during load balancing. |

show cscf service li-packet-cable statistics

Refer to the *ASR 5000 Lawful Intercept Configuration Guide* for descriptions of these statistics.

show cscf service statistics name <service_name> all

Table 218: show cscf service statistics name <service_name> all Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| CSCF Service | The name of the service and context. |
| CSCF Active Subscriptions | |
| Originating | The total current number of active subscriptions originating on this service. |
| Terminating (UE originated) | The total current number of UE-originated active subscriptions terminating on this service. |
| Terminating (PCSCF Originated) | The total current number of Proxy CSCF-originated active subscriptions terminating on this service. |
| Terminating (AS Originated) | The total current number of AS-originated active subscriptions terminating on this service. |
| Proxied | The total current number of active subscriptions proxied on this service. |
| CSCF Calls | |
| Total CallSetupAttempts Rx | The total current number of call setup attempts received by this service. |
| Total CallSetupAttempts Tx | The total current number of call setup attempts transmitted by this service. |
| Total CallSetupSuccess Rx | The total current number of successful call setups received by this service. |
| Total CallSetupSuccess Tx | The total current number of call setups successfully transmitted by this service. |
| Total CallSetupFailures Rx | The total current number of call setup failures received by this service. |
| Total CallSetupFailures Tx | The total current number of failed call setups transmitted by this service. |
| Total 3xx Responses Rx | The total current number of 3xx responses received by this service. |

| Field | Description |
|----------------------------------|--|
| Total 3xx Responses Tx | The total current number of 3xx responses transmitted by this service. |
| Total 402 Payment Required Rx | The total current number of 402 Payment Required responses received by this service. |
| Total 402 Payment Required Tx | The total current number of 402 Payment Required responses transmitted by this service. |
| Total 403 Forbidden Rx | The total current number of 403 Forbidden responses received by this service. |
| Total 403 Forbidden Tx | The total current number of 403 Forbidden responses transmitted by this service. |
| Total 404 Not Found Rx | The total current number of 404 Not Found responses received by this service. |
| Total 404 Not FoundTx | The total current number of 404 Not Found responses transmitted by this service. |
| Total 405 Method Not Allowed Rx | The total current number of 405 Method Not Allowed responses received by this service. |
| Total 405 Method Not AllowedTx | The total current number of 405 Method Not Allowed responses transmitted by this service. |
| Total 407 Proxy Auth Required Rx | The total current number of 407 Proxy Auth Required responses received by this service. |
| Total 407 Proxy Auth Required Tx | The total current number of 407 Proxy Auth Required responses transmitted by this service. |
| Total 408 Request Timeout Rx | The total current number of 408 Request Timeout responses received by this service. |
| Total 408 Request Timeout Tx | The total current number of 408 Request Timeout responses transmitted by this service. |
| Total 420 Bad Extension Rx | The total current number of 420 Bad Extension responses received by this service. |
| Total 420 Bad Extension Tx | The total current number of 420 Bad Extension responses transmitted by this service. |
| Total 421 Extension Required Rx | The total current number of 421 Extension Required responses received by this service. |
| Total 421 Extension Required Tx | The total current number of 421 Extension Required responses transmitted by this service. |
| Total 480 Temp Not Available Rx | The total current number of 480 Temp Not Available responses received by this service. |

| Field | Description |
|-----------------------------------|---|
| Total 480 Temp Not Available Tx | The total current number of 480 Temp Not Available responses transmitted by this service. |
| Total 486 Busy Here Rx | The total current number of 486 Busy Here responses received by this service. |
| Total 486 Busy Here Tx | The total current number of 486 Busy Here responses transmitted by this service. |
| Total 487 Request Cancel Rx | The total current number of 487 Request Cancel responses received by this service. |
| Total 487 Request Cancel Tx | The total current number of 487 Request Cancel responses transmitted by this service. |
| Total 488 Not Acceptable Media Rx | The total current number of 488 Not Acceptable Media responses received by this service. |
| Total 488 Not Acceptable Media Tx | The total current number of 488 Not Acceptable Media responses transmitted by this service. |
| Total 4xx Responses Rx | The total current number of 4xx responses received by this service. |
| Total 4xx Responses Tx | The total current number of 4xx responses transmitted by this service. |
| Total 5xx Responses Rx | The total current number of 5xx responses received by this service. |
| Total 5xx Responses Tx | The total current number of 5xx responses transmitted by this service. |
| Total 500 Internal Error Rx | The total current number of 500 Internal Error responses received by this service. |
| Total 500 Internal Error Tx | The total current number of 500 Internal Error responses transmitted by this service. |
| Total 503 Service Unavailable Rx | The total current number of 503 Service Unavailable responses received by this service. |
| Total 503 Service Unavailable Tx | The total current number of 503 Service Unavailable responses transmitted by this service. |
| Total 6xx Responses Rx | The total current number of 6xx responses received by this service. |
| Total 6xx Responses Tx | The total current number of 6xx responses transmitted by this service. |
| Total CallReleaseAttempts Rx | The total current number of call release attempts received by this service. |
| Total CallReleaseAttempts Tx | The total current number of call release attempts transmitted by this service. |

| Field | Description |
|--|---|
| Total CallReleaseSuccess Rx | The total current number of call releases successfully received by this service. |
| Total CallReleaseSuccess Tx | The total current number of successful call releases transmitted by this service. |
| Total CallReleaseFailures Rx | The total current number of call release failures received by this service. |
| Total CallReleaseFailures Tx | The total current number of failed call releases transmitted by this service. |
| Total Call Attempts Challenged | The total current number of call attempts challenged on this service. |
| Total Session Timer Expires | The total current number of sessions on this service with expired timers. |
| Total Call Rejects from PCRF/PDF | The total current number of calls rejected by the PCRF/PDF from this service. |
| Total Call Rejects from Proxy (local) | The total current number of calls rejected by the local proxy from this service. |
| Total Too Large SIP Messages | The total current number of too large SIP messages on this service. |
| Total HSS Accesses | The total current number of HSS accesses by this service. |
| Total Emergency Calls | The total current number of emergency calls made through this service. |
| Total Toll Free Calls | The total current number of toll-free calls made through this service. |
| Total Premium Service Calls | The total current number of premium-service calls made through this service. |
| Total International Calls | The total current number of international calls made through this service. |
| Total LongDistance Calls | The total current number of long distance calls made through this service. |
| Total Operator Assisted Calls | The total current number of operator-assisted calls made through this service. |
| Total Directory Assisted Calls | The total current number of directory-assisted calls made through this service. |
| Total Media (audio) Loss Call Releases | The total current number of media (audio) loss call releases by this service. |
| Total RTP Packets Sent | The total current number of RTP packets sent by this service. |

| Field | Description |
|--|--|
| Total RTP Packets Received | The total current number of RTP packets received by this service. |
| Total MSRP Packets Sent | The total current number of MSRP TCP packets sent by this service. |
| Total MSRP Packets Received | The total current number of MSRP TCP packets received by this service. |
| Total RTCP Packets Sent | The total current number of RTCP packets sent by this service. |
| Total RTCP Packets Received | The total current number of RTCP packets received by this service. |
| Total Call Releases initiated by UE | The total current number of UE-initiated call releases. <ul style="list-style-type: none"> • For P-CSCF, the number of BYE initiated by UE. • For S-CSCF, the number of BYE received from P-CSCF (initiated by UE/P-CSCF). |
| Total Call Releases initiated by Network | The total current number of network-initiated call releases. <ul style="list-style-type: none"> • For P-CSCF, the number of BYE received from S-CSCF. • For S-CSCF, the number of BYE received from AS, etc. |
| Total Call Releases initiated by Radio Loss | The total current number of Radio Loss-initiated call releases; the number of BYE originated by P-CSCF due to radio coverage loss of UE. |
| Total Call Releases initiated by CSCF (Local) | The total current number of CSCF (Local)-initiated call releases; the number of BYE originated by CSCF due to CLI, radio loss, network-initiated de-registration, and internal processing failure. |
| Total Calls rejected due to Concurrent Call limit exceeded | The total current number of calls rejected due to concurrent call limit exceeded by this service. |
| CSCF Congestion Control Statistes | |
| Registration Attempts Rejected | The total current number of registration (SIP REGISTER message) attempts rejected by CSCF service due to congestion trigger. |
| Re-Registration Attempts Rejected | The total current number of re-registration (SIP REGISTER message) attempts rejected by CSCF service due to congestion trigger. |
| Call Setup Attempts Rejected | The total current number of call setup attempts (SIP INVITE) rejected by CSCF service due to congestion trigger. |
| Message Attempts Rejected | The total current number of SIP MESSAGE requests rejected by CSCF service due to congestion trigger. |
| Subscription Attempts Rejected | The total current number of SIP SUBSCRIBE requests rejected by CSCF service due to congestion trigger. |

show cscf service statistics name <service_name> all

| Field | Description |
|---------------------------------------|--|
| Notification Attempts Rejected | The total current number of SIP NOTIFY requests rejected by CSCF service due to congestion trigger. |
| Publish Attempts Rejected | The total current number of SIP PUBLISH attempts rejected by CSCF service due to congestion trigger. |
| Other SIP Message Attempts Rejected | The total current number of other SIP requests (excepts those mentioned above) rejected by CSCF service due to congestion trigger. |
| Messages dropped due to congestion | The total current number of SIP messages dropped by CSCF service due to congestion trigger. |
| TCP packets dropped due to congestion | The total current number of TCP packets dropped by CSCF service due to congestion trigger. |
| Number of times congestion applied | The number of times the sessmgr congestion control is triggered. This value is collected from all sessmgrs running the CSCF service. |
| Number of times congestion cleared | The number of times the sessmgr congestion control is cleared. This value is collected from all sessmgrs running the CSCF service. |
| CSCF MESSAGE Statistics | |
| Message Attempts Received | The total current number of message attempts received by this service. |
| Message Attempts Transmitted | The total current number of message attempts transmitted by this service. |
| Message Success Received | The total current number of successful messages received by this service. |
| Message Success Transmitted | The total current number of messages successfully transmitted by this service. |
| Message Failures Received | The total current number of message failures received by this service. |
| Message Failures Transmitted | The total current number of failed messages transmitted by this service. |
| 3xx Response Received | The total current number of 3xx Response messages received on this service. |
| 3xx Response Transmitted | The total current number of 3xx Response messages transmitted by this service. |
| 400 Bad Request Received | The total current number of 400 Bad Request messages received on this service. |

| Field | Description |
|--------------------------------------|--|
| 400 Bad Request Transmitted | The total current number of 400 Bad Request messages transmitted by this service. |
| 403 Forbidden Received | The total current number of 403 Forbidden messages received on this service. |
| 403 Forbidden Transmitted | The total current number of 403 Forbidden messages transmitted by this service. |
| 404 Not Found Received | The total current number of 404 Not Found messages received on this service. |
| 404 Not Found Transmitted | The total current number of 404 Not Found messages transmitted by this service. |
| 413 Request Entity Too Large | The total current number of 413 Request Entity Too Large messages received on this service. |
| 413 Request Entity Too Large | The total current number of 413 Request Entity Too Large messages transmitted by this service. |
| 415 Unsupport Media Type Received | The total current number of 415 Unsupport Media Type messages received on this service. |
| 415 Unsupport Media Type Transmitted | The total current number of 415 Unsupport Media Type messages transmitted by this service. |
| 416 Unsupport URI Scheme Received | The total current number of 416 Unsupport URI Scheme messages received on this service. |
| 416 Unsupport URI Scheme Transmitted | The total current number of 416 Unsupport URI Scheme messages transmitted by this service. |
| 420 Bad Extension Received | The total current number of 420 Bad Extension messages received on this service. |
| 420 Bad Extension Transmitted | The total current number of 420 Bad Extension messages transmitted by this service. |
| 421 Extension Required Received | The total current number of 421 Extension Required messages received on this service. |
| 421 Extension Required Transmitted | The total current number of 421 Extension Required messages transmitted by this service. |
| 480 Temp Not Available Received | The total current number of 480 Temp Not Available messages received on this service. |
| 480 Temp Not Available Transmitted | The total current number of 480 Temp Not Available messages transmitted by this service. |
| 488 Not Acceptable Media Received | The total current number of 488 Not Acceptable Media messages received on this service. |

| Field | Description |
|--------------------------------------|--|
| 488 Not Acceptable Media Transmitted | The total current number of 488 Not Acceptable Media messages transmitted by this service. |
| 4xx Response Received | The total current number of 4xx Response messages received on this service. |
| 4xx Response Transmitted | The total current number of 4xx Response messages transmitted by this service. |
| 500 Internal Error Received | The total current number of 500 Internal Error messages received on this service. |
| 500 Internal Error Transmitted | The total current number of 500 Internal Error messages transmitted by this service. |
| 513 Message Too Large Received | The total current number of 513 Message Too Large messages received on this service. |
| 513 Message Too Large Transmitted | The total current number of 513 Message Too Large messages transmitted by this service. |
| 5xx Response Received | The total current number of 5xx Response messages received on this service. |
| 5xx Response Transmitted | The total current number of 5xx Response messages transmitted by this service. |
| 6xx Response Received | The total current number of 6xx Response messages received on this service. |
| 6xx Response Transmitted | The total current number of 6xx Response messages transmitted by this service. |
| CSCF Performance | |
| Invite Processing Time | Minimum and maximum time (in ms) required to process an INVITE message (time elapsed between the INVITE entering the proxy and the INVITE forwarded out of the proxy). |
| First Response Time | Minimum and maximum time (in ms) between sending an INVITE message out of the proxy and the first response received for the INVITE (any 1xx). |
| Post Dial Delay | Minimum and maximum time (in ms) between sending an INVITE message out of the proxy and receiving the ringing message or any final response to the INVITE. |
| Session Setup Delay | Minimum and maximum time (in ms) between when an INVITE message was received by the proxy and a 200 OK (invite) sent out of the proxy. |

| Field | Description |
|---|---|
| Post Answer Delay | Minimum and maximum time (in ms) between a 200 OK INVITE message received by the proxy and the ACK message (for invite) sent out of the proxy. |
| Session Release Delay | Minimum and maximum time (in ms) between when a BYE message is received by the proxy and a 200 OK BYE is sent out of the proxy. |
| CSCF Registrations | |
| Current Registered Users | The current number of users registered to this service. |
| Current Secure Connections | The current number of secure connections to this service. |
| Current Unsecure Connections | The current number of unsecure connections to this service. |
| Total Failed Authentications | The total current number of failed authentications for this service. |
| Total Registration Expires | The total current number of expired registrations on this service. |
| Total Registration from Roaming UE | The total number of registrations from Roaming UE. |
| Total Successful Registration from Roaming UE | The total number 200 ok to registrations from Roaming UE. |
| Total Failed Registration from Roaming UE | The total number of failed registrations from Roaming UE. |
| Total 403 response to Registration from Roaming UE | The total number of 403 response to registration from Roaming UE. |
| Total Re-Registration from Roaming UE | The total number of re-registration from Roaming UE. |
| Total Successful Re-Registration from Roaming UE | The total number 200 ok to re-registrations from Roaming UE. |
| Total Failed Re-Registration from Roaming UE | The total number of failed re-registrations from Roaming UE. |
| Total 403 response to Re-Registration from Roaming UE | The total number of 403 response to re-registration from Roaming UE. |
| Total De-Registration from Roaming UE | The total number of de-registration from Roaming UE. |
| Total Successful De-Registration from Roaming UE | The total number 200 ok to de-registrations from Roaming UE. |
| Total Failed De-Registration from Roaming UE | The total number of failed de-registrations from Roaming UE. |
| Total 403 response to De-Registration from Roaming UE | The total number of 403 response to de-registration from Roaming UE. |
| Total De-registrations initiated by UE | The total current number of UE-initiated de-registration requests on this service. |
| Total De-registrations initiated by Network | The total current number of network-initiated de-registration requests received by P-CSCF from S-CSCF or by S-CSCF/SIP Proxy from internal/HSS trigger on this service. |

| Field | Description |
|--|---|
| Total Secure Registrations | The total current number of secure registrations on this service. |
| Total Failed Secure Registrations | The total current number of failed secure registrations on this service. |
| Registration Statistics | |
| Registration Attempts Received | The total current number of registration attempts received on this service. |
| Registration Attempts Transmitted | The total current number of registration attempts transmitted by this service. |
| Registration Success Received | The total current number of registration successes received on this service. |
| Registration Success Transmitted | The total current number of registration successes transmitted by this service. |
| Registration Failures Received | The total current number of registration failures received on this service. |
| Registration Failures Transmitted | The total current number of registration failures transmitted by this service. |
| 401 Unauthorized (Registration) Received | The total current number of 401 Unauthorized responses to registration received on this service. |
| 401 Unauthorized (Registration) Transmitted | The total current number of 401 Unauthorized responses to registration transmitted by this service. |
| 403 Forbidden (Registration) Received | The total current number of 403 Forbidden responses to registration received on this service. |
| 403 Forbidden (Registration) Transmitted | The total current number of 403 Forbidden responses to registration transmitted by this service. |
| 404 Not Found (Registration) Received | The total current number of 404 Not Found responses to registration received on this service. |
| 404 Not Found (Registration) Transmitted | The total current number of 404 Not Found responses to registration transmitted by this service. |
| 420 Bad Extension (Registration) Received | The total current number of 420 Bad Extension responses to registration received on this service. |
| 420 Bad Extension (Registration) Transmitted | The total current number of 420 Bad Extension responses to registration transmitted by this service. |
| 439 First HopLackOb (Registration) Received | The total current number of 439 First Hop Lack Outbound responses to registration received on this service. |

| Field | Description |
|--|--|
| 439 First HopLackOb (Registration) Transmitted | The total current number of 439 First Hop Lack Outbound responses to registration transmitted by this service. |
| 4xx Responses (Registration) Received | The total current number of 4xx responses to registration received on this service. |
| 4xx Responses (Registration) Transmitted | The total current number of 4xx responses to registration transmitted by this service. |
| 500 Internal Error (Registration) Received | The total current number of 500 Internal Error responses to registration received on this service. |
| 500 Internal Error (Registration) Transmitted | The total current number of 500 Internal Error responses to registration transmitted by this service. |
| 5xx Responses (Registration) Received | The total current number of 5xx responses to registration received on this service. |
| 5xx Responses (Registration) Transmitted | The total current number of 5xx responses to registration transmitted by this service. |
| 6xx Responses (Registration) Received | The total current number of 6xx responses to registration received on this service. |
| 6xx Responses (Registration) Transmitted | The total current number of 6xx responses to registration transmitted by this service. |
| Re-Registration Statistics | |
| Re-Registration Attempts Received | The total current number of re-registration attempts received on this service. |
| Re-Registration Attempts Transmitted | The total current number of re-registration attempts transmitted by this service. |
| Re-Registration Success Received | The total current number of re-registration successes received on this service. |
| Re-Registration Success Transmitted | The total current number of re-registration successes transmitted by this service. |
| Re-Registration Failures Received | The total current number of re-registration failures received on this service. |
| Re-Registration Failures Transmitted | The total current number of re-registration failures transmitted by this service. |
| 401 Unauthorized (Re-Registration) Received | The total current number of 401 Unauthorized responses to re-registration received on this service. |
| 401 Unauthorized (Re-Registration) Transmitted | The total current number of 401 Unauthorized responses to re-registration transmitted by this service. |

show cscf service statistics name <service_name> all

| Field | Description |
|---|---|
| 403 Forbidden (Re-Registration) Received | The total current number of 403 Forbidden responses to re-registration received on this service. |
| 403 Forbidden (Re-Registration) Transmitted | The total current number of 403 Forbidden responses to re-registration transmitted by this service. |
| 404 Not Found (Re-Registration) Received | The total current number of 404 Not Found responses to re-registration received on this service. |
| 404 Not Found (Re-Registration) Transmitted | The total current number of 404 Not Found responses to re-registration transmitted by this service. |
| 420 Bad Extension (Re-Registration) Received | The total current number of 420 Bad Extension responses to re-registration received on this service. |
| 420 Bad Extension (Re-Registration) Transmitted | The total current number of 420 Bad Extension responses to re-registration transmitted by this service. |
| 439 First HopLackOb (Re-Registration) Received | The total current number of 439 First Hop Lack Outbound responses to re-registration received on this service. |
| 439 First HopLackOb (Re-Registration) Transmitted | The total current number of 439 First Hop Lack Outbound responses to re-registration transmitted by this service. |
| 4xx Responses (Re-Registration) Received | The total current number of 4xx responses to re-registration received on this service. |
| 4xx Responses (Re-Registration) Transmitted | The total current number of 4xx responses to re-registration transmitted by this service. |
| 500 Internal Error (Re-Registration) Received | The total current number of 500 Internal Error responses to re-registration received on this service. |
| 500 Internal Error (Re-Registration) Transmitted | The total current number of 500 Internal Error responses to re-registration transmitted by this service. |
| 5xx Responses (Re-Registration) Received | The total current number of 5xx responses to re-registration received on this service. |
| 5xx Responses (Re-Registration) Transmitted | The total current number of 5xx responses to re-registration transmitted by this service. |
| 6xx Responses (Re-Registration) Received | The total current number of 6xx responses to re-registration received on this service. |
| 6xx Responses (Re-Registration) Transmitted | The total current number of 6xx responses to re-registration transmitted by this service. |
| De-Registration Statistics | |
| De-Registration Attempts Received | The total current number of de-registration attempts received on this service. |

| Field | Description |
|---|---|
| De-Registration Attempts Transmitted | The total current number of de-registration attempts transmitted by this service. |
| De-Registration Success Received | The total current number of de-registration successes received on this service. |
| De-Registration Success Transmitted | The total current number of de-registration successes transmitted by this service. |
| De-Registration Failures Received | The total current number of de-registration failures received on this service. |
| De-Registration Failures Transmitted | The total current number of de-registration failures transmitted by this service. |
| 401 Unauthorized (De-Registration) Received | The total current number of 401 Unauthorized responses to de-registration received on this service. |
| 401 Unauthorized (De-Registration) Transmitted | The total current number of 401 Unauthorized responses to de-registration transmitted by this service. |
| 403 Forbidden (De-Registration) Received | The total current number of 403 Forbidden responses to de-registration received on this service. |
| 403 Forbidden (De-Registration) Transmitted | The total current number of 403 Forbidden responses to de-registration transmitted by this service. |
| 404 Not Found (De-Registration) Received | The total current number of 404 Not Found responses to de-registration received on this service. |
| 404 Not Found (De-Registration) Transmitted | The total current number of 404 Not Found responses to de-registration transmitted by this service. |
| 420 Bad Extension (De-Registration) Received | The total current number of 420 Bad Extension responses to de-registration received on this service. |
| 420 Bad Extension (De-Registration) Transmitted | The total current number of 420 Bad Extension responses to de-registration transmitted by this service. |
| 439 First HopLackOb (De-Registration) Received | The total current number of 439 First Hop Lack Outbound responses to de-registration received on this service. |
| 439 First HopLackOb (De-Registration) Transmitted | The total current number of 439 First Hop Lack Outbound responses to de-registration transmitted by this service. |
| 4xx Responses (De-Registration) Received | The total current number of 4xx responses to de-registration received on this service. |
| 4xx Responses (De-Registration) Transmitted | The total current number of 4xx responses to de-registration transmitted by this service. |
| 500 Internal Error (De-Registration) Received | The total current number of 500 Internal Error responses to de-registration received on this service. |

| Field | Description |
|---|--|
| 500 Internal Error (De-Registration) Transmitted | The total current number of 500 Internal Error responses to de-registration transmitted by this service. |
| 5xx Responses (Re-Registration) Received | The total current number of 5xx responses to de-registration received on this service. |
| 5xx Responses (De-Registration) Transmitted | The total current number of 5xx responses to de-registration transmitted by this service. |
| 6xx Responses (De-Registration) Received | The total current number of 6xx responses to de-registration received on this service. |
| 6xx Responses (De-Registration) Transmitted | The total current number of 6xx responses to de-registration transmitted by this service. |
| Unclassified Requests (Registration) Received | The total current number of unclassified request responses to registration received on this service. |
| 4XX Responses (Unclassified Requests) Transmitted | The total current number of 4XX responses (Unclassified Requests) transmitted by this service. |
| 5XX Responses (Unclassified Requests) Transmitted | The total current number of 5XX Responses (Unclassified Requests) transmitted by this service. |
| IP-Security Statistics | |
| Total Secure Connection | The total number of subscribers with secure connections on this service. |
| Total Unsecure Connection | The total number of subscribers with unsecure connections on this service. |
| Total Security Association Rejects | The total number of security association rejections on this service. |
| Total Secure Registrations | The total number of secure registrations on this service. |
| Total Secure Re-registrations | The total number of secure re-registrations on this service. |
| Total Secure De-registrations | The total number of secure de-registrations on this service. |
| Total Emergency Registrations | The total number of emergency registrations on this service. |
| Total Failed Secure Registrations | The total number of failed secure registrations on this service. |
| Total IP-Sec Packets Received | The total number of IPSec packets received on this service. |
| Total IP-Sec Packets Transmitted | The total number of IPSec packets transmitted by this service. |
| Total IP-Sec Octets Received | The total number of IPSec octets received on this service. |
| Total IP-Sec Octets Transmitted | The total number of IPSec octets transmitted by this service. |
| Total Registration Rejects Due to Sec-Agree | The total number of registration rejections due to security agreement on this service. |

| Field | Description |
|--|--|
| Total Registration Rejects Due to Algorithm Mismatch | The total number of registration rejections due to algorithm mismatch on this service. |
| Total Messages Dropped Due to Error | The total number of messages dropped due to error on this service. |
| Total Messages With Incorrect Security Verify | The total number of messages with incorrect security verification on this service. |
| MSRP TCP Connection Statistics | |
| Total TCP Subscribers | The total number of subscribers having TCP connections for MSRP Signaling on this service. |
| Active Connections | The total number of active TCP connections for MSRP Signaling on this service. |
| Total Connections Closed | The total number of TCP connections for MSRP Signaling closed on this service. |
| Total Successful Outgoing Connections | The total number of successful outgoing TCP connections for MSRP Signaling on this service. |
| Total Failed Outgoing Connections | The total number of failed outgoing TCP connections for MSRP Signaling on this service. |
| Total Successful Incoming Connections | The total number of successful incoming TCP connections for MSRP Signaling on this service. |
| Total Failed Incoming Connections | The total number of failed incoming TCP connections for MSRP Signaling on this service. |
| Total Packets Sent | The total number of TCP/IP packets transmitted by CSCF service. |
| Total Packets Received | The total number of TCP/IP packets received by CSCF service. |
| Total Bytes Sent | The total number of bytes transmitted. |
| Total Bytes Received | The total number of bytes received. |
| Others | |
| Current CSCF Sessions | The number of currently active CSCF sessions existing on this service. |
| Total CSCF Sessions | Total number of CSCF sessions created so far for originating/proxying SIP messages. This counter should not include CSCF sessions created for internal processing, like ROUTE REQUEST. Also, this counter should not get incremented for REGISTER requests received by S-CSCF as it acts as registrar and S-CSCF callleg itself can handle this. |
| Total TCP Subscribers | Total number of subscribers with an active TCP connection (MSRP, SIP, or both) existing on this service. |

show cscf service statistics name <service_name> all

| Field | Description |
|---|---|
| Active TCP Connections | Total number of currently active TCP connections for both MSRP and SIP existing on this service. |
| Current IPsec TCP Connections | Total number of currently active IPsec TCP connections existing on this service. |
| 405 Method Not Allowed Rejections | Total number of 405 Method Not Allowed Rejections existing on this service. |
| SigComp Statistics | |
| Total Requests Compressed | The total number of SIP request messages compressed by this service. |
| Total Requests Decompressed | The total number of SIP request messages decompressed by this service. |
| Total Responses Compressed | The total number of SIP response messages compressed by this service. |
| Total Responses Decompressed | The total number of SIP response messages decompressed by this service. |
| Total NACK Packets Received | The total number of NACK (negative acknowledgement) packets received by this service. |
| Total NACK Packets Transmitted | The total number of NACK (negative acknowledgement) packets transmitted by this service. |
| Total Compression Failures | The current total number of compression failures that occurred in this service. |
| Total Decompression Failures | The current total number of decompression failures that occurred in this service. |
| SigComp Effectiveness | |
| Ratio results in this section are derived using the following formula: $(S_b - S_a) * 100 / (S_b)$ where S_b = the size of the message before compression and S_a = the size of the message after compression. | |
| Best compression ratio (Outgoing message) | The current best compression ratio achieved for messages sent by this service. |
| Worst compression ratio (Outgoing message) | The current worst compression ratio achieved for messages sent by this service. Usually this will be a negative value indicating that the message had expanded instead of compressed. |
| Average compression ratio (Outgoing message) | The running average compression of messages sent by this service. The average is derived using the following formula: $(S(S_b) - S(S_a)) * 100 / (S(S_b))$. |

| Field | Description |
|--|---|
| Best compression ratio (Incoming message) | The current best compression ratio achieved for messages received by this service. |
| Worst compression ratio (Incoming message) | The current worst compression ratio achieved for messages received by this service. Usually this will be a negative value indicating that the message had expanded instead of compressed. |
| Average compression ratio (Incoming message) | The running average compression of messages received by this service. The average is derived using the following formula: $(S(Sb) - S(Sa)) * 100 / (S(Sb))$. |
| SIP TCP Connection Statistics | |
| Total TCP Subscribers | The total number of subscribers having TCP connections for SIP Signaling on this service. |
| Active Connections | The total number of active TCP connections for SIP Signaling on this service. |
| Total Connections Closed | The total number of TCP connections for SIP Signaling closed on this service. |
| Total Successful Outgoing Connections | The total number of successful outgoing TCP connections for SIP Signaling on this service. |
| Total Failed Outgoing Connections | The total number of failed outgoing TCP connections for SIP Signaling on this service. |
| Total Successful Incoming Connections | The total number of successful incoming TCP connections for SIP Signaling on this service. |
| Total Failed Incoming Connections | The total number of failed incoming TCP connections for SIP Signaling on this service. |
| Total Migrated Connections | The total number of TCP connections migrated from Cscfmgtr to Sessmgr for load balancing. |
| Total Packets Sent | The total number of TCP/IP packets transmitted by CSCF service. |
| Total Packets Received | The total number of TCP/IP packets received by CSCF service. |
| Total Bytes Sent | The total number of bytes transmitted. |
| Total Bytes Received | The total number of bytes received. |
| Subscription Package | |
| Subscription Attempts Received | The total current number of subscription attempts received on this service. |
| Subscription Attempts Transmitted | The total current number of subscription attempts transmitted by this service. |

show cscf service statistics name <service_name> all

| Field | Description |
|---|---|
| Subscription Success Received | The total current number of subscription successes received on this service. |
| Subscription Success Transmitted | The total current number of subscription successes transmitted by this service. |
| Subscription Failures Received | The total current number of subscription failures received on this service. |
| Subscription Failures Transmitted | The total current number of subscription failures transmitted by this service. |
| 200 OK (Subscription) Received | The total current number of 200 OK responses to registration received on this service. |
| 200 OK (Subscription) Transmitted | The total current number of 200 OK responses to registration transmitted by this service. |
| 202 Accepted (Subscription) Received | The total current number of 202 Accepted responses to registration received on this service. |
| 202 Accepted (Subscription) Transmitted | The total current number of 202 Accepted responses to registration transmitted by this service. |
| 400 Bad Request (Subscription) Received | The total current number of 400 Bad Request responses to registration received on this service. |
| 400 Bad Request (Subscription) Transmitted | The total current number of 400 Bad Request responses to registration transmitted by this service. |
| 403 Forbidden (Subscription) Received | The total current number of 403 Forbidden responses to registration received on this service. |
| 403 Forbidden (Subscription) Transmitted | The total current number of 403 Forbidden responses to registration transmitted by this service. |
| 481 Trans Does Not Exist (Subscription) Received | The total current number of 481 Trans Does Not Exist responses to registration received on this service. |
| 481 Trans Does Not Exist (Subscription) Transmitted | The total current number of 481 Trans Does Not Exist responses to registration transmitted by this service. |
| 489 Bad Event (Subscription) Received | The total current number of 489 Bad Event responses to registration received on this service. |
| 489 Bad Event (Subscription) Transmitted | The total current number of 489 Bad Event responses to registration transmitted by this service. |
| 500 Internal Error (Subscription) Received | The total current number of 500 Internal Error responses to registration received on this service. |
| 500 Internal Error (Subscription) Transmitted | The total current number of 500 Internal Error responses to registration transmitted by this service. |

| Field | Description |
|--|--|
| Re-Subscription Attempts Received | The total current number of re-subscription attempts received on this service. |
| Re-Subscription Attempts Transmitted | The total current number of re-subscription attempts transmitted by this service. |
| Re-Subscription Success Received | The total current number of re-subscription successes received on this service. |
| Re-Subscription Success Transmitted | The total current number of re-subscription successes transmitted by this service. |
| Re-Subscription Failures Received | The total current number of re-subscription failures received on this service. |
| Re-Subscription Failures Transmitted | The total current number of re-subscription failures transmitted by this service. |
| 200 OK (Re-Subscription) Received | The total current number of 200 OK responses to re-registration received on this service. |
| 200 OK (Re-Subscription) Transmitted | The total current number of 200 OK responses to re-registration transmitted by this service. |
| 202 Accepted (Re-Subscription) Received | The total current number of 202 Accepted responses to re-registration received on this service. |
| 202 Accepted (Re-Subscription) Transmitted | The total current number of 202 Accepted responses to re-registration transmitted by this service. |
| 400 Bad Request (Re-Subscription) Received | The total current number of 400 Bad Request responses to re-registration received on this service. |
| 400 Bad Request (Re-Subscription) Transmitted | The total current number of 400 Bad Request responses to re-registration transmitted by this service. |
| 403 Forbidden (Re-Subscription) Received | The total current number of 403 Forbidden responses to re-registration received on this service. |
| 403 Forbidden (Re-Subscription) Transmitted | The total current number of 403 Forbidden responses to re-registration transmitted by this service. |
| 481 Trans Does Not Exist (Re-Subscription) Received | The total current number of 481 Trans Does Not Exist responses to re-registration received on this service. |
| 481 Trans Does Not Exist (Re-Subscription) Transmitted | The total current number of 481 Trans Does Not Exist responses to re-registration transmitted by this service. |
| 489 Bad Event (Re-Subscription) Received | The total current number of 489 Bad Event responses to re-registration received on this service. |
| 489 Bad Event (Re-Subscription) Transmitted | The total current number of 489 Bad Event responses to re-registration transmitted by this service. |

| Field | Description |
|--|--|
| 500 Internal Error (Re-Subscription) Received | The total current number of 500 Internal Error responses to re-registration received on this service. |
| 500 Internal Error (Re-Subscription) Transmitted | The total current number of 500 Internal Error responses to re-registration transmitted by this service. |
| Un-Subscription Attempts Received | The total current number of un-subscription attempts received on this service. |
| Un-Subscription Attempts Transmitted | The total current number of un-subscription attempts transmitted by this service. |
| Un-Subscription Success Received | The total current number of un-subscription successes received on this service. |
| Un-Subscription Success Transmitted | The total current number of un-subscription successes transmitted by this service. |
| Un-Subscription Failures Received | The total current number of un-subscription failures received on this service. |
| Un-Subscription Failures Transmitted | The total current number of un-subscription failures transmitted by this service. |
| 200 OK (Un-Subscription) Received | The total current number of 200 OK responses to un-registration received on this service. |
| 200 OK (Un-Subscription) Transmitted | The total current number of 200 OK responses to un-registration transmitted by this service. |
| 202 Accepted (Un-Subscription) Received | The total current number of 202 Accepted responses to un-registration received on this service. |
| 202 Accepted (Un-Subscription) Transmitted | The total current number of 202 Accepted responses to un-registration transmitted by this service. |
| 400 Bad Request (Un-Subscription) Received | The total current number of 400 Bad Request responses to un-registration received on this service. |
| 400 Bad Request (Un-Subscription) Transmitted | The total current number of 400 Bad Request responses to un-registration transmitted by this service. |
| 403 Forbidden (Un-Subscription) Received | The total current number of 403 Forbidden responses to un-registration received on this service. |
| 403 Forbidden (Un-Subscription) Transmitted | The total current number of 403 Forbidden responses to un-registration transmitted by this service. |
| 481 Trans Does Not Exist (Un-Subscription) Received | The total current number of 481 Trans Does Not Exist responses to un-registration received on this service. |
| 481 Trans Does Not Exist (Un-Subscription) Transmitted | The total current number of 481 Trans Does Not Exist responses to un-registration transmitted by this service. |

| Field | Description |
|--|--|
| 489 Bad Event (Un-Subscription) Received | The total current number of 489 Bad Event responses to un-registration received on this service. |
| 489 Bad Event (Un-Subscription) Transmitted | The total current number of 489 Bad Event responses to un-registration transmitted by this service. |
| 500 Internal Error (Un-Subscription) Received | The total current number of 500 Internal Error responses to un-registration received on this service. |
| 500 Internal Error (Un-Subscription) Transmitted | The total current number of 500 Internal Error responses to un-registration transmitted by this service. |
| Notify Attempts Received | The total current number of notify attempts received on this service. |
| Notify Attempts Transmitted | The total current number of notify attempts transmitted by this service. |
| Notify Success Received | The total current number of notify successes received on this service. |
| Notify Success Transmitted | The total current number of notify successes transmitted by this service. |
| Notify Failures Received | The total current number of notify failures received on this service. |
| Notify Failures Transmitted | The total current number of notify failures transmitted by this service. |
| Publish Attempts Received | The total current number of publish attempts received on this service. |
| Publish Attempts Transmitted | The total current number of publish attempts transmitted by this service. |
| Publish Success Received | The total current number of publish successes received on this service. |
| Publish Success Transmitted | The total current number of publish successes transmitted by this service. |
| Publish Failures Received | The total current number of publish failures received on this service. |
| Publish Failures Transmitted | The total current number of publish failures transmitted by this service. |
| Un-Publish Attempts Received | The total current number of un-publish attempts received on this service. |
| Un-Publish Attempts Transmitted | The total current number of un-publish attempts transmitted by this service. |

show cscf service statistics name <service_name> all

| Field | Description |
|--|--|
| Un-Publish Success Received | The total current number of un-publish successes received on this service. |
| Un-Publish Success Transmitted | The total current number of un-publish successes transmitted by this service. |
| Un-Publish Failures Received | The total current number of un-publish failures received on this service. |
| Un-Publish Failures Transmitted | The total current number of un-publish failures transmitted by this service. |
| TCP Connection Statistics | |
| Active IP-Sec Connections | The total number of active IPSec TCP connections on this service. |
| Total IP-Sec Connections Closed | The total number of IPSec TCP connections closed on this service. |
| Total Successful IP-Sec Outgoing Connections | The total number of successful outgoing IPSec TCP connections on this service. |
| Total Failed IP-Sec Outgoing Connections | The total number of failed outgoing IPSec TCP connections on this service. |
| Total Successful IP-Sec Incoming Connections | The total number of successful incoming IPSec TCP connections on this service. |
| Total Failed IP-Sec Incoming Connections | The total number of failed incoming IPSec TCP connections on this service. |
| ATCF Call Statistics | |
| Access Transfer Attempts | Total number of Access Transfer Attempts received/transmitted. |
| Access Transfer Success | Total number of Access Transfer Successes received/transmitted. |
| Access Transfer Failures | Total number of Access Transfer Failures received/transmitted. |
| 404 Error Response | Total number of 404 received/transmitted for Access Transfer requests. |
| 500 Internal Error | Total number of 500 internal errors received/transmitted for Access Transfer requests. |
| 488 Response | Total number of 488 received/transmitted for Access Transfer requests. |
| 4xx Responses | Total number of 4XX received/transmitted for Access Transfer requests. |
| 5xx Responses | Total number of 5XX received/transmitted for Access Transfer requests. |

| Field | Description |
|--|--|
| 6xx Responses | Total number of 6XX received/transmitted for Access Transfer requests. |
| EATF Call Statistics | |
| Total Emergency call Access Transfer Request | The total number of Emergency call Access Transfer (EATF) requests. |
| Total Emergency call Access Transfer Success | The total number of Emergency call Access Transfer (EATF) successes. |
| Total Emergency call Access Transfer Failure | The total number of Emergency call Access Transfer (EATF) failures. |
| 480 Error responses | The total number of 480 responses received. |
| 488 Error responses | The total number of 488 responses received. |
| 500 Error responses | The total number of 500 responses received. |
| 4xx Error responses | The total number of 4XX responses received. |
| 5xx Error responses | The total number of 5XX responses received. |
| Internal Error responses | The total number of internal error responses received. |

show cscf sessions counters

Table 219: show cscf sessions counters Command Output Descriptions

| Field | Description |
|-----------------|--|
| Interval | |
| <200ms | The number of sessions that had a duration of less than 200 millisecond. |
| 200..400ms | The number of sessions that had a duration between 200 and 400 milliseconds. |
| 400..600ms | The number of sessions that had a duration between 400 and 600 milliseconds. |
| 600..800ms | The number of sessions that had a duration between 600 and 800 milliseconds. |
| 800..1000ms | The number of sessions that had a duration between 800 and 1000 milliseconds. |
| 1000..1200ms | The number of sessions that had a duration between 1000 and 1200 milliseconds. |

| Field | Description |
|--------------|--|
| 1200..1400ms | The number of sessions that had a duration between 1200 and 1400 milliseconds. |
| 1400..1600ms | The number of sessions that had a duration between 1400 and 1600 milliseconds. |
| 1600..1800ms | The number of sessions that had a duration between 1600 and 1800 milliseconds. |
| 1800..2000ms | The number of sessions that had a duration between 1800 and 2000 milliseconds. |
| 2000..2200ms | The number of sessions that had a duration between 2000 and 2200 milliseconds. |
| 2200..2400ms | The number of sessions that had a duration between 2200 and 2400 milliseconds. |
| 2400..2600ms | The number of sessions that had a duration between 2400 and 2600 milliseconds. |
| 2600..2800ms | The number of sessions that had a duration between 2600 and 2800 milliseconds. |
| 2800..3000ms | The number of sessions that had a duration between 2800 and 3000 milliseconds. |
| 3..5sec | The number of sessions that had a duration between three and five seconds. |
| 5..7sec | The number of sessions that had a duration between five and seven seconds. |
| 7..9sec | The number of sessions that had a duration between seven and nine seconds. |
| 9..11sec | The number of sessions that had a duration between nine and 11 seconds. |
| 11..13sec | The number of sessions that had a duration between 11 and 13 seconds. |
| 13..15sec | The number of sessions that had a duration between 13 and 15 seconds. |
| 15..17sec | The number of sessions that had a duration between 15 and 17 seconds. |
| 17..19sec | The number of sessions that had a duration between 17 and 19 seconds. |
| 19..21sec | The number of sessions that had a duration between 19 and 21 seconds. |

| Field | Description |
|--|--|
| >21sec | The number of sessions that had a duration of more than 21 seconds. |
| Count | |
| The following provide total counts for each session type per specified interval. | |
| Invite Processing Time | Time required to process an INVITE message (time elapsed between the INVITE entering the proxy and the INVITE forwarded out of the proxy). |
| First Response Delay | Time between sending an INVITE message out of the proxy and the first response received for the INVITE (any 1xx). |
| Post Dial Delay | Time between sending an INVITE message out of the proxy and receiving the ringing message or any final response to the INVITE. |
| Session Setup Delay | Time between when an INVITE message was received by the proxy and a 200 OK (invite) sent out of the proxy. |
| Post Answer Delay | Time between a 200 OK INVITE message received by the proxy and the ACK message (for invite) sent out of the proxy. |
| Session Release Delay | Time between when a BYE message is received by the proxy and a 200 OK BYE is sent out of the proxy. |

show cscf sessions duration

Table 220: show cscf sessions duration Command Output Descriptions

| Field | Description |
|-----------|--|
| <1s | The number of sessions that had a duration of less than one second. |
| 01..10sec | The number of sessions that had a duration between one and 10 seconds. |
| 10..30sec | The number of sessions that had a duration between 10 and 30 seconds. |
| 30..60sec | The number of sessions that had a duration between 30 and 60 seconds. |
| 01..03min | The number of sessions that had a duration between one and three minutes. |
| 03..05min | The number of sessions that had a duration between three and five minutes. |

| Field | Description |
|-----------|--|
| 05..07min | The number of sessions that had a duration between five and seven minutes. |
| 07..09min | The number of sessions that had a duration between seven and nine minutes. |
| 09..11min | The number of sessions that had a duration between nine and 11 minutes. |
| 11..13min | The number of sessions that had a duration between 11 and 13 minutes. |
| 13..15min | The number of sessions that had a duration between 13 and 15 minutes. |
| 15..17min | The number of sessions that had a duration between 15 and 17 minutes. |
| 17..19min | The number of sessions that had a duration between 17 and 19 minutes. |
| 19..21min | The number of sessions that had a duration between 19 and 21 minutes. |
| 21..23min | The number of sessions that had a duration between 21 and 23 minutes. |
| 23..25min | The number of sessions that had a duration between 23 and 25 minutes. |
| 25..27min | The number of sessions that had a duration between 25 and 27 minutes. |
| 27..29min | The number of sessions that had a duration between 27 and 29 minutes. |
| 29..60min | The number of sessions that had a duration between 29 and 60 minutes. |
| >60min | The number of sessions that had a duration of more than 60 minutes. |
| <1hr | The number of sessions that had a duration of less than one hour. |
| 1..2hrs | The number of sessions that had a duration between one and two hours. |
| 2..3hrs | The number of sessions that had a duration between two and three hours. |
| 3..4hrs | The number of sessions that had a duration between three and four hours. |

| Field | Description |
|----------|---|
| 4..5hrs | The number of sessions that had a duration between four and five hours. |
| 5..6hrs | The number of sessions that had a duration between five and six hours. |
| 6..7hrs | The number of sessions that had a duration between six and seven hours. |
| 7..8hrs | The number of sessions that had a duration between seven and eight hours. |
| 8..9hrs | The number of sessions that had a duration between eight and nine hours. |
| 9..10hrs | The number of sessions that had a duration between nine and 10 hours. |
| >10hrs | The number of sessions that had a duration of more than 10 hours. |

show cscf sip statistics

Table 221: show cscf sip statistics Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| CSCF Service | The name of the service and context. |
| Peer IP Address | The IP address of the peer server expressed in IPv4 or IPv6 dotted decimal notation. |
| SIP Request Statistics | |
| Register | The total number of SIP Register requests received (Rx) or transmitted (Tx) by this service. |
| Invite | The total number of INVITE requests received (Rx) or transmitted (Tx) by this service. |
| Ack | The total number of ACK requests received (Rx) or transmitted (Tx) by this service. |
| Bye | The total number of Bye requests received (Rx) or transmitted (Tx) by this service. |
| Info | The total number of Info requests received (Rx) or transmitted (Tx) by this service. |
| Prack | The total number of PRACK requests received (Rx) or transmitted (Tx) by this service. |

| Field | Description |
|--------------------------------|--|
| Refer | The total number of Refer requests received (Rx) or transmitted (Tx) by this service. |
| Cancel | The total number of Cancel requests received (Rx) or transmitted (Tx) by this service. |
| Notify | The total number of Notify requests received (Rx) or transmitted (Tx) by this service. |
| Update | The total number of Update requests received (Rx) or transmitted (Tx) by this service. |
| Message | The total number of Message requests received (Rx) or transmitted (Tx) by this service. |
| Options | The total number of Options requests received (Rx) or transmitted (Tx) by this service. |
| Publish | The total number of Publish requests received (Rx) or transmitted (Tx) by this service. |
| Subscribe | The total number of Subscribe requests received (Rx) or transmitted (Tx) by this service. |
| Notify | The total number of Notify requests received (Rx) or transmitted (Tx) by this service. |
| SIP Response Statistics | |
| 100 Trying | The total number of 100 Trying responses received (Rx) or transmitted (Tx) by this service. |
| 180 Ringing | The total number of 180 Ringing responses received (Rx) or transmitted (Tx) by this service. |
| 181 Forwarding | The total number of 181 Forwarded responses received (Rx) or transmitted (Tx) by this service. |
| 182 Queued | The total number of 182 Queued responses received (Rx) or transmitted (Tx) by this service. |
| 183 Progress | The total number of 183 Progress responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Register) | The total number of 200 OK Register responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Invite) | The total number of 200 OK Invite responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Bye) | The total number of 200 OK Bye responses received (Rx) or transmitted (Tx) by this service. |

| Field | Description |
|--------------------------|---|
| 200 Ok (Info) | The total number of 200 OK Info responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Prack) | The total number of 200 OK PRACK responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Refer) | The total number of 200 OK Refer responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Cancel) | The total number of 200 OK Cancel responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Notify) | The total number of 200 OK Notify responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Update) | The total number of 200 OK Update responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Message) | The total number of 200 OK Message responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Options) | The total number of 200 OK Options responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Publish) | The total number of 200 OK Publish responses received (Rx) or transmitted (Tx) by this service. |
| 200 Ok (Subscribe) | The total number of 200 OK Subscribe responses received (Rx) or transmitted (Tx) by this service. |
| 202 Accepted (Refer) | The total number of 202 Accepted Refer responses received (Rx) or transmitted (Tx) by this service. |
| 202 Accepted (Subscribe) | The total number of 202 Accepted Subscribe responses received (Rx) or transmitted (Tx) by this service. |
| 300 Multiple Choices | The total number of Multiple Choices responses received (Rx) or transmitted (Tx) by this service. |
| 301 Moved Permanently | The total number of Moved Permanently responses received (Rx) or transmitted (Tx) by this service. |
| 302 Moved Temporarily | The total number of Moved Temporarily responses received (Rx) or transmitted (Tx) by this service. |
| 305 Use Proxy | The total number of Use Proxy responses received (Rx) or transmitted (Tx) by this service. |
| 380 Alternative Service | The total number of Alternative Service responses received (Rx) or transmitted (Tx) by this service. |

| Field | Description |
|--------------------------|--|
| 400 Bad Request | The total number of 400 Bad Request errors received (Rx) or transmitted (Tx) by this service. |
| 401 Unauthorized | The total number of 401 Unauthorized errors received (Rx) or transmitted (Tx) by this service. |
| 403 Forbidden | The total number of 403 Forbidden errors received (Rx) or transmitted (Tx) by this service. |
| 404 Not Found | The total number of 404 Not Found errors received (Rx) or transmitted (Tx) by this service. |
| 405 Method Not Allowed | The total number of 405 Method Not Allowed errors received (Rx) or transmitted (Tx) by this service. |
| 406 Not Acceptable | The total number of 406 Not Acceptable errors received (Rx) or transmitted (Tx) by this service. |
| 407 Proxy Auth Required | The total number of 407 Proxy Auth Required errors received (Rx) or transmitted (Tx) by this service. |
| 408 Request Timeout | The total number of 408 Request Timeout errors received (Rx) or transmitted (Tx) by this service. |
| 410 Gone | The total number of 410 Gone errors received (Rx) or transmitted (Tx) by this service. |
| 412 Conditional Req Fail | The total number of 412 Conditional Request Fail errors received (Rx) or transmitted (Tx) by this service. |
| 413 Req Entity Too Large | The total number of 413 Request Entity Too Large errors received (Rx) or transmitted (Tx) by this service. |
| 414 Req URI Too Long | The total number of 414 Request URI Too Long errors received (Rx) or transmitted (Tx) by this service. |
| 415 Unsupport Media Type | The total number of 415 Unsupported Media Type errors received (Rx) or transmitted (Tx) by this service. |
| 416 Unsupport URI Scheme | The total number of 416 Unsupported URI Scheme errors received (Rx) or transmitted (Tx) by this service. |
| 420 Bad Extension | The total number of 420 Bad Extension errors received (Rx) or transmitted (Tx) by this service. |
| 421 Extension Required | The total number of 421 Extension Required errors received (Rx) or transmitted (Tx) by this service. |
| 423 Interval Too Brief | The total number of 423 Interval Too Brief errors received (Rx) or transmitted (Tx) by this service. |
| 480 Temp Not Available | The total number of 480 Temp Not Available errors received (Rx) or transmitted (Tx) by this service. |

| Field | Description |
|--------------------------|--|
| 481 Trans Does Not Exist | The total number of 481 Transaction Does Not Exist errors received (Rx) or transmitted (Tx) by this service. |
| 482 Loop Detected | The total number of 482 Loop Detected errors received (Rx) or transmitted (Tx) by this service. |
| 483 Too Many Hops | The total number of 483 Too Many Hops errors received (Rx) or transmitted (Tx) by this service. |
| 484 Address Incomplete | The total number of 484 Address Incomplete errors received (Rx) or transmitted (Tx) by this service. |
| 485 Ambiguous | The total number of 485 Ambiguous errors received (Rx) or transmitted (Tx) by this service. |
| 486 Busy Here | The total number of 486 Busy Here errors received (Rx) or transmitted (Tx) by this service. |
| 487 Request Cancel | The total number of 487 Request Cancel errors received (Rx) or transmitted (Tx) by this service. |
| 488 Not Acceptable Media | The total number of 488 Not Acceptable Media errors received (Rx) or transmitted (Tx) by this service. |
| 489 Bad Event | The total number of 489 Bad Event errors received (Rx) or transmitted (Tx) by this service. |
| 491 Request Pending | The total number of 491 Request Pending errors received (Rx) or transmitted (Tx) by this service. |
| 493 Undecipherable | The total number of 493 Undecipherable errors received (Rx) or transmitted (Tx) by this service. |
| 500 Internal Error | The total number of 500 Internal Error errors received (Rx) or transmitted (Tx) by this service. |
| 501 Not Implemented | The total number of 501 Not Implemented errors received (Rx) or transmitted (Tx) by this service. |
| 502 Bad Gateway | The total number of 502 Bad Gateway errors received (Rx) or transmitted (Tx) by this service. |
| 503 Service Unavailable | The total number of 503 Service Unavailable errors received (Rx) or transmitted (Tx) by this service. |
| 504 Gateway Timeout | The total number of 504 Gateway Timeout errors received (Rx) or transmitted (Tx) by this service. |
| 505 Bad SIP Version | The total number of 505 Bad SIP Version errors received (Rx) or transmitted (Tx) by this service. |
| 513 Message Too Large | The total number of 513 Message Too Large errors received (Rx) or transmitted (Tx) by this service. |

| Field | Description |
|--------------------------------------|--|
| 580 Precondition Failure | The total number of 580 Precondition Failure errors received (Rx) or transmitted (Tx) by this service. |
| 600 Busy Everywhere | The total number of 600 Busy Everywhere errors received (Rx) or transmitted (Tx) by this service. |
| 603 Decline | The total number of 603 Decline errors received (Rx) or transmitted (Tx) by this service. |
| 604 Not Exist Anywhere | The total number of 604 Not Exist Anywhere errors received (Rx) or transmitted (Tx) by this service. |
| 606 Not Acceptable | The total number of 606 Not Acceptable errors received (Rx) or transmitted (Tx) by this service. |
| Total Invalid Messages | The total number of SIP Invalid Messages received (Rx) or transmitted (Tx) by this service. |
| Total Messages | The total number of SIP Messages received (Rx) or transmitted (Tx) by this service. |
| TCP Request | The total number of SIP requests received (Rx) or transmitted (Tx) over TCP by this service. |
| TCP Response | The total number of SIP responses received (Rx) or transmitted (Tx) over TCP by this service. |
| Auto switch to TCP on MTU size limit | The total number of times CSCF switched from UDP to TCP because of message size larger than MTU. |

show cscf tcp connections

Table 222: show cscf tcp connections Command Output Descriptions

| Field | Description |
|------------------------|--|
| TCP Connection Details | |
| LocalIp | The local IP address, expressed in IPv4 or IPv6 dotted decimal notation, of the TCP connection. |
| Local Port | The local port number of the TCP connection. |
| RemoteIp | The remote IP address, expressed in IPv4 or IPv6 dotted decimal notation, of the TCP connection. |
| Remote Port | The remote port number of the TCP connection. |
| Facility | Facility type for which connection details have to be retrieved—CscfMgr or SessMgr. |

| Field | Description |
|------------------|--|
| Instance | The instance number of the facility that the connection belongs to. |
| SockDesc | The socket descriptor id. |
| State | The state of the connection. TCP states are: <ul style="list-style-type: none"> • CLOSED • LISTEN • SYNCSSENT • SYNCRVD • ESTABLISHED • CLOSEWAIT • FINWAIT1 • CLOSING • LASTACK • FINWAIT2 • TIMEWAIT • INVALID |
| BytesInRecvQueue | Data size in the receive queue, in bytes. |
| BytesInSendQueue | Data size in the send queue, in bytes. |
| RecvQueueSize | Size of the receive queue, in bytes. |
| SendQueueSize | Size of the send queue, in bytes. |
| MaxSendWind | Maximum send window seen so far. |
| SndUna | Send unacknowledged sequence value. |
| SndNext | Send next sequence value. |
| MaxSndNext | Highest sequence number sent. |
| Iss | Initial send sequence number. |
| Irs | Initial receive sequence number. |
| Rto | Retransmission timeout. |
| SndWL1 | Send segment sequence number used for last window update. |
| SndWL2 | Send segment acknowledgment number used for last window update. |

| Field | Description |
|-------------------|---|
| MaxSndWind | Maximum send window seen so far. |
| RecvNxt | Receive next sequence. |
| RecvWind | Receive window sequence. |
| RecvAdv | Sequence number of right edge of advertised window. |
| CWind | Send congestion window. |
| Ssthresh | Send slow start threshold size. |
| BackLog | Back logs. |
| DupAck | Duplicate ACKs. |
| RetransSegments | Number of retransmitted segments. |
| AckAfterRetrans | Number of non duplicate acks after duplicate ACK. |
| TcpFlags | TCP flags. |
| Total TCP sockets | The total number of TCP sockets. |



CHAPTER 40

show decor

This chapter includes the **show decor** command output tables.

- [show decor-profile full all](#), on page 771

show decor-profile full all

Table 223: show decor-profile full all Command Output Descriptions

| Field | Description |
|--------------------|---|
| Decor Profile Name | Displays the configured decor-profile name. |
| UE Usage Types | Displays the configured UE usage types. |
| MMEGI | Displays the MMEGI value. |
| DNS | Indicates whether DNS is enabled or disabled. |
| DCN Id | Displays the configured DCN identifier. Displays "Not Defined" if not configured. |
| PLMN ID | Displays the configured PLMN identifier. Displays "Not Defined" if not configured. |
| Serving DCN | Indicates whether MME is serving the DCN. Displays "Not Defined" if not configured. |
| Relative Capacity | Indicates the configured relative capacity. |
| DNS Service Param | Displays the configured DNS service parameter. |



CHAPTER 41

show demux-mgr

This chapter includes the **demux-mgr** command output tables.

- [show demux-mgr statistics egtpegmgr all](#), on page 773
- [show demux-mgr statistics egtpinmgr all](#), on page 773
- [show demux-mgr sessions egtpinmgr all](#), on page 774

show demux-mgr statistics egtpegmgr all

Table 224: show demux-mgr statistics egtpegmgr all Command Output Descriptions

| Field | Description |
|--|--|
| IMSI Manager Stats | |
| max sess threshold exceeded | Indicates if the maximum session threshold is exceeded. |
| connected sess threshold exceeded | Indicates if the connected sessions threshold is exceeded. |
| Sessions disconnected due to overload disconnect | Indicates the number of sessions disconnected due to an overload. |
| Peer Salvation Stats | |
| No of peer salvation requests sent by demux | Indicates the number of peer salvation requests sent by the Demux. |
| No of peer salvaged on demux | Indicates the number of peers salvaged on the Demux. |

show demux-mgr statistics egtpinmgr all

Table 225: show demux-mgr statistics egtpinmgr all Command Output Descriptions

| Field | Description |
|-----------------------------|---|
| IMSI Manager Stats | |
| max sess threshold exceeded | Indicates if the maximum session threshold is exceeded. |

| Field | Description |
|--|--|
| connected sess threshold exceeded | Indicates if the connected sessions threshold is exceeded. |
| Sessions disconnected due to overload disconnect | Indicates the number of sessions disconnected due to an overload. |
| Peer Salvation Stats | |
| No of peer salvation requests sent by demux | Indicates the number of peer salvation requests sent by the Demux. |
| No of peer salvaged on demux | Indicates the number of peers salvaged on the Demux. |
| DCNR | |
| #DCNR | Indicates the instance number of the DCNR session. |

show demux-mgr sessions egtpinmgr all

Table 226: show demux-mgr statistics egtpinmgr all Command Output Descriptions

| Field | Description |
|--------------|--|
| DCNR Session | Indicates if the session is a DCNR session or not. |



CHAPTER 42

show dhcp

This chapter includes the **show dhcp** command output tables.

- [show dhcp call-id](#), on page 775
- [show dhcp chaddr](#), on page 778
- [show dhcp dhcp-service](#), on page 778
- [show dhcp msid](#), on page 781
- [show dhcp full msid](#), on page 781
- [show dhcp status](#), on page 785
- [show dhcp-service](#), on page 785
- [show dhcp statistics](#), on page 787
- [show dhcp username](#), on page 794
- [show dhcp full username](#), on page 794

show dhcp call-id

Table 227: show dhcp call-id Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Session Counters | |
| Total Current | The total number of currently active sessions on the system that received DHCP-assigned IP addresses. |
| DHCP Proxy | The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Messages | |
| DISCOVER TX | The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retransmitted | The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER relayed | The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method. |

| Field | Description |
|--|---|
| OFFER RX | The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER Discarded | The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER relayed | The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| REQUEST TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST retransmitted | The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST relayed | The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method. |
| ACK RX | The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK for INFORM | The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK relayed | The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| NAK RX | The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method. |
| NAK for INFORM | The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| NAK relayed | The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| DECLINE relayed | The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE relayed | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| INFORM relayed | The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method. |
| DHCP OFFER Discard Reasons: (dhcp-proxy) | |

| Field | Description |
|--|---|
| Parse error | The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| Lease less than min | The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system. |
| Lease greater than max | The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system. |
| IP Validation failed | The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |
| XID mismatch: | The number of DHCPOFFER messages discarded by the system due to an XID mismatch. |
| DHCP ACK Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| XID mismatch: | The number of DHCPACK messages discarded by the system due to an XID mismatch. |
| DHCP DECLINE Reasons: (dhcp-proxy) | |
| IP mismatch | The number of DHCP DECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER. |
| IP Lease Renewals | The number of address lease renewal requests successfully processed. |
| DHCP Call Type | Type of DHCP call. |

| Field | Description |
|----------------------|--|
| DHCP State | Status of DHCP call. <ul style="list-style-type: none"> • Bound : Call Established • Renewing: Call renewing after expiry of leased time. • Rebinding: Making call for same call id after expiry of |
| Lease time received | Time in seconds allotted for a specific call-Id. |
| Lease time remaining | Time in seconds available for a specific call-Id. |

show dhcp chaddr

Table 228: show dhcp chaddr Command Output Descriptions

| Field | Description |
|---|--|
| User Name | The user name associated with this session. |
| User Address | The IP address of the user's PDP context in dotted decimal notation. |
| DHCP Service | The DHCP service name. |
| Server Address | The server address. |
| DHCP Call Type | The DHCP call type. |
| DHCP State | The DHCP state. |
| Lease time received | The IP address lease time received. |
| Lease time remaining | The IP address lease time remaining. |
| Total DHCP sessions matching specified criteria | The total number of DHCP sessions matching specified criteria. |

show dhcp dhcp-service

Table 229: show dhcp dhcp-service Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Session Counters | |
| Total Current | The total number of currently active PDP contexts on the system that received DHCP-assigned IP addresses as facilitated by the specified criteria. |

| Field | Description |
|------------------------|---|
| DHCP Proxy | The total number of PDP contexts that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Relay Agent | The total number of PDP contexts that were assigned IP addresses using the DHCP Relay method. |
| DHCP Messages | |
| DISCOVER TX | The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retransmitted | The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER relayed | The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| OFFER RX | The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER Discarded | The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER relayed | The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| REQUEST TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST retransmitted | The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST relayed | The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method. |
| ACK RX | The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK for INFORM | The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK relayed | The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| NAK RX | The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method. |
| NAK for INFORM | The number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |

| Field | Description |
|---|---|
| NAK relayed | The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| DECLINE relayed | The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE relayed | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| INFORM relayed | The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method. |
| DHCP OFFER Discard Reasons | |
| Parse error | The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| Lease less than min | The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system. |
| Lease greater than max | The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system. |
| IP Validation failed | The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |
| DHCP ACK Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| DHCP DECLINE Reasons: (dhcp-proxy) | |

| Field | Description |
|-------------------|---|
| IP mismatch | The number of DHCPDECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER. |
| IP Lease Renewals | The number of address lease renewal requests successfully processed. |

show dhcp msid

Table 230: show dhcp msid Command Output Descriptions

| Field | Description |
|---|--|
| User Name | The user name associated with this session. |
| User Address | IP address of the user's PDP context in dotted decimal notation. |
| DHCP Service | The DHCP service name. |
| Server Address | The server address. |
| DHCP Chaddr of MS | The Client Hardware (MAC) Address (CHADDR) of MS. |
| DHCP Call Type | The DHCP call type. |
| DHCP State | The DHCP state. |
| Lease time received | The IP address lease time received. |
| Lease time remaining | The IP address lease time remaining. |
| Total DHCP sessions matching specified criteria | The total number of DHCP sessions matching specified criteria. |

show dhcp full msid

Table 231: show dhcp full msid Command Output Descriptions

| Field | Description |
|----------------|--|
| User Name | The user name associated with this session. |
| User Address | IP address of the user's PDP context in dotted decimal notation. |
| DHCP Service | The DHCP service name. |
| Server Address | The server address. |

| Field | Description |
|------------------------|---|
| DHCP Call Type | The DHCP call type. |
| DHCP State | The DHCP status. |
| Lease time received | Time allotted in seconds. |
| Lease time remaining | Time available in seconds. |
| DHCP Messages: | |
| DISCOVER TX | The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retransmitted | The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER RX | The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retried RX | The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER relayed | The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| OFFER RX | The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER Discarded | The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER relayed | The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| REQUEST TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST retransmitted | The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST RX | The number of DHCPREQUEST messages received by the system as part of the DHCP Proxy method. |
| REQUEST renewal RX | The number of DHCPREQUEST renewal messages received by the system as part of the DHCP Proxy method. |
| REQUEST relayed | The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method. |

| Field | Description |
|---|--|
| ACK RX | The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK for INFORM | The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK TX | The number of DHCPACK messages send to the DHCP server as part of the DHCP Proxy method. |
| ACK Renewing TX | The number of DHCPACK messages renewed from the DHCP server as part of the DHCP Proxy method. |
| ACK relayed | The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| NAK RX | The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method. |
| NAK for INFORM | The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| NAK TX | The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method. |
| NAK relayed | The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| DECLINE relayed | The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE relayed | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| INFORM relayed | The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method. |
| DHCP OFFER Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |

| Field | Description |
|---|---|
| Lease less than min | The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system. |
| Lease greater than max | The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system. |
| IP Validation failed | The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |
| DHCP ACK Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| DHCP DECLINE Reasons: (dhcp-proxy) | |
| IP mismatch | The number of DHCP DECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER. |
| IP Lease Renewals | The number of address lease renewal requests successfully processed. |
| Session Counters: | |
| Total Current | The total number of currently active sessions on the system that received DHCP-assigned IP addresses. |
| DHCP Proxy | The total number of sessions that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Relay Agent | The total number of sessions that were assigned IP addresses using the DHCP Relay method. |
| DHCP Server | The DHCP server's IP address. |
| Total DHCP sessions matching specified criteria | The total number of DHCP sessions matching the specified criteria. |

show dhcp status

Table 232: show dhcp status Command Output Descriptions

| Field | Description |
|------------------------|--|
| DHCP Type | Indicates the type of DHCP service active. Possible types are: <ul style="list-style-type: none"> • (P) - DHCP Proxy • (R) - DHCP Relay • (S) - DHCP Server • (u) - unknown call |
| Lease State | The lease state for the DHCP service. |
| DHCP Service | The name of the DHCP service. |
| DHCP Server | The IP address of DHCP server. |
| Status | Indicates the status of the DHCP server. Possible status are: <ul style="list-style-type: none"> • Up • Active |
| Current Leased Address | The total number of DHCP Relay-assigned IP addresses currently leased to this service. |
| Total Leased Address | The total number of DHCP Relay-assigned IP addresses available for this service. |

show dhcp-service

Table 233: show dhcp-service name Command Output Descriptions

| Field | Description |
|------------------|---|
| Service name | The DHCP service name. |
| Context | The context name. |
| Bind | Indicates the bind status. |
| Local IP Address | The IP address of DHCP server. |
| Next Hop Address | Indicates the nexthop-forwarding address configured in DHCP service for MPLS traffic. |

| Field | Description |
|-------------------------------|--|
| DHCP Subnet mask used | Indicates the host mask. |
| MPLS-label | Indicates the MPLS labels configured in DHCP service for MPLS traffic. |
| Service Status | Indicates the service status, whether started or not. |
| Retransmission Timeout | The retransmission timeout period that must pass with no response before the system re-attempts to communicate with the DHCP server, in milliseconds. |
| Max Retransmissions | The maximum number of times that the system attempts to communicate with unresponsive DHCP server before it is considered a failure. |
| Lease Time | The lease time, in seconds. |
| Minimum Lease Duration | The minimum allowable lease duration accepted in responses from DHCP servers, in seconds. |
| Maximum Lease Duration | The maximum allowable lease duration accepted in responses from DHCP servers, in seconds. |
| DHCP Dead Time | The DHCP deadtime, in seconds, indicating the time period that the system waits prior to re-communicating with a DHCP server that was previously marked as down. |
| DHCP Dead consecutive Failure | The number of consecutive failures for the to be declared dead. |
| DHCP T1 Threshold Timer | The DHCP T1 threshold timer indicating the percentage of the allocated IP address lease time at which the DHCP call-line state is changed to "RENEWING". |
| DHCP T2 Threshold Timer | The DHCP T2 threshold timer indicating the percentage of the allocated IP address lease time at which the DHCP call-line state is changed to "REBINDING". |
| DHCP Client Identifier | Indicates the behavior relating to inclusion of client identifier DHCP option in DHCP messages. Possible values are: <ul style="list-style-type: none"> • msisdn • none. |
| DHCP Algorithm | The algorithm used to select DHCP servers with which to communicate when multiple servers are configured. |
| DHCP Servers configured | The IP address and priority information of the DHCP servers configured. |

| Field | Description |
|----------------------------|--|
| VRF Name | Indicates the name of the virtual routing and forwarding context instance associated with this DHCP service. Note: For DHCP over MPLS feature to work in StarOS 9.0 onward VRF context must be associated in DHCP service. Without this association the DHCP service using MPLS labels will not be started. |
| Input | Indicates the MPLS labels configured in DHCP service for inward MPLS traffic. Note: For DHCP over MPLS feature to work in StarOS 9.0 onward VRF context must be associated in DHCP service. Without this association the DHCP service using MPLS labels will not be started. |
| Output | Indicates the MPLS labels configured in DHCP service for outward MPLS traffic. |
| DHCP server rapid-commit | Indicates if the rapid commit option is enabled/disabled for DHCP server. |
| DHCP client rapid-commit | Indicates if the rapid commit option is enabled/disabled for DHCP clients. |
| DHCP server check msg size | Indicates if the checking of message size is enabled/disabled for DHCP messages sent from server to client. |
| DHCP relay agent option | Indicates if the DHCP relay agent option is enabled/disabled. |
| DHCP chaddr validation | Indicates the behavior of the client hardware address (chaddr) validation in DHCP messages. |

show dhcp statistics

Table 234: show dhcp statistics Command Output Descriptions

| Field | Description |
|----------------------|--|
| Session Stats | |
| Total Current | The total number of currently active sessions on the system that received DHCP-assigned IP addresses. |
| DHCP Proxy | The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Relay Agent | The total number of currently active sessions that were assigned IP addresses using the DHCP Relay method. |

| Field | Description |
|--|---|
| DHCP Server | The total number of currently active sessions that were assigned IP addresses using the DHCP Server. |
| Total Setup | The cumulative total number of sessions facilitated by the system that received DHCP-assigned IP addresses. |
| DHCP Proxy | The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Relay Agent | The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Relay method. |
| DHCP Server | The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Server. |
| Total Released | The total number of IP addresses that have been returned to the DHCP server(s). |
| Session Release Reasons: (dhcp-proxy) | |
| Admin Releases | The number of DHCP Proxy-assigned IP addresses released due to administrative intervention. |
| Bearer Call Terminated | The number of DHCP Proxy-assigned IP addresses released due to session termination. |
| Lease Exp Policy | The number of DHCP Proxy-assigned IP addresses released due to the expiration of the address lease policy. |
| Lease Renew Failure | The number of DHCP Proxy-assigned IP addresses released due to a failure experienced during lease renewal. |
| IP Address mismatch | The number of DHCP Proxy-assigned IP addresses released due to the offering of an invalid IP address. |
| Lease time mismatch | The number of DHCP Proxy-assigned IP addresses released due to the offering of an unacceptable lease time. |
| Chaddr mismatch | The number of DHCP Proxy-assigned IP addresses released due to the mis-match in client hardware address (MAC) or unknown/invalid client hardware address. |
| Client-identifier mis-match | The number of DHCP Proxy-assigned IP addresses released due to the mis-match in client id or unknown/invalid client id. |
| Other Reasons | The number of DHCP Proxy-assigned IP addresses released due to reasons other than those listed here. |
| Session Release Reasons: (dhcp-relay) | |
| Admin Releases | The number of DHCP Relay-assigned IP addresses released due to administrative intervention. |

| Field | Description |
|---|---|
| Bearer Call Terminated | The number of DHCP Relay-assigned IP addresses released due to session termination. |
| Lease Timed-out | The number of DHCP Relay-assigned IP addresses released due to the expiration of the address lease. |
| Other Reasons | The number of DHCP Relay-assigned IP addresses released due to reasons other than those listed here. |
| Session Release Reasons: (dhcp-local-server) | |
| Admin Releases | The number of DHCP local-server-assigned IP addresses released due to administrative intervention. |
| Bearer Call Terminated | The number of DHCP local-server-assigned IP addresses released due to session termination. |
| Lease Timed-out | The number of DHCP local-server-assigned IP addresses released due to the expiration of the address lease. |
| Other Reasons | The number of DHCP local-server-assigned IP addresses released due to reasons other than those listed here. |
| DHCP Messages | |
| DISCOVER TX | The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retransmitted | The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER RX | The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retried RX | The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER relayed | The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method. |
| DISCOVER retransmitted relayed | The number of retransmitted DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay |
| OFFER RX | The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER Discarded | The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER relayed | The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method. |

| Field | Description |
|--------------------------|---|
| REQUEST TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST retransmitted | The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST relayed | The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method. |
| REQUEST renewing relayed | The number of DHCPREQUEST renewal messages relayed by the system to the mobile as part of the DHCP Relay method. |
| ACK RX | The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK for INFORM | The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK Renewing RX | The number of DHCPACK renewal messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK TX | The number of DHCPACK messages sent to the DHCP server as part of the DHCP Proxy method. |
| ACK Renewing TX | The number of DHCPACK renewal messages sent to the DHCP server as part of the DHCP Proxy method |
| ACK relayed | The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| ACK renewing relayed | The number of DHCPACK renewal messages relayed by the system to the mobile as part of the DHCP Relay method. |
| NAK RX | The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method. |
| NAK for INFORM | The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| NAK TX | The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method. |
| NAK relayed | The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| DECLINE TX | The number of DHCPDECLINE messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DECLINE RX | The number of DHCPDECLINE messages received from the DHCP server as part of the DHCP Proxy method. |

| Field | Description |
|------------------------------------|---|
| DECLINE relayed | The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE TX | The number of DHCPRELEASE messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| RELEASE RX | The number of DHCPRELEASE messages received from the DHCP server as part of the DHCP Proxy method. |
| RELEASE relayed | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE for relay call | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| INFORM TX | The number of DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| INFORM retransmitted | The number of DHCPINFORM messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| INFORM RX | The number of DHCPINFORM messages received from the DHCP server as part of the DHCP Proxy method. |
| INFORM relayed | The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method. |
| DHCP OFFER Discard Reasons: | |
| Parse error | The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| Lease less than min | The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system. |
| Lease greater than max | The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system. |
| IP Validation failed | The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |

| Field | Description |
|---|---|
| XID mismatch: | The number of DHCP OFFER messages discarded by the system due to an XID mismatch. |
| DHCP ACK Discard Reasons: | |
| Parse error | The number of DHCP ACK messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| XID mismatch: | The number of DHCP ACK messages discarded by the system due to an XID mismatch. |
| DHCP DECLINE Reasons: (dhcp-proxy) | |
| IP mismatch | The number of DHCP DECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER. |
| DHCP DISCOVER Discard Reasons: | |
| Parse error | The number of DHCP DISCOVER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| DHCP REQUEST Discard Reasons: | |
| Parse error | The number of DHCP REQUEST messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| DHCP RELEASE Discard Reasons: | |

| Field | Description |
|---|---|
| Parse error | The number of DHCPRELEASE messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| Renewal Statistics: (dhcp-proxy) | |
| IP Lease Renewals | The number of address lease renewal requests successfully processed. |
| Failed IP Lease Renewals | The number of address lease renewal requests for which failures occurred. This is the sum of the following errors: <ul style="list-style-type: none"> • No reply from server • Server NAK • IP address mis-match • Lease mismatch |
| No reply from server | The number of address lease renewal requests made for which there was no reply from the DHCP server within the stipulated time. The time required to wait for the server's response is described in RFC 2131, section 4.4.5. |
| Server NAK | The number of address lease renewal requests for which a negative acknowledgement was received from the server. |
| IP address mis-match | The number of address lease renewal requests for which there was an IP address mis-match condition- the IP Addresses assigned to the client (in the first ACK) and the IP address returned in the successive ACK (in response to lease renewal DHCP REQUEST) did not match. |
| Lease mis-match | The number of address lease renewal requests for which there was a lease time mis-match condition- to be lease returned in the first ACK was within the limits of the DHCP Service Configuration parameters, but the lease returned in the ACK (in response to lease renewal DHCP REQUEST) did not match. |

show dhcp username

Table 235: show dhcp username Command Output Descriptions

| Field | Description |
|---|--|
| User Name | The user name associated with this session. |
| User Address | IP address of the user's PDP context in dotted decimal notation. |
| DHCP Service | The DHCP service name. |
| Server Address | The server address. |
| DHCP Call Type | The DHCP call type. |
| DHCP State | The DHCP state. |
| Lease time received | The IP address lease time received. |
| Lease time remaining | The IP address lease time remaining. |
| Total DHCP sessions matching specified criteria | The total number of DHCP sessions matching specified criteria. |

show dhcp full username

Table 236: show dhcp full username Command Output Descriptions

| Field | Description |
|---------------------|--|
| User Name | The user name associated with this session. |
| User Address | IP address of the user's PDP context in dotted decimal notation. |
| DHCP Service | The DHCP service name. |
| Server Address | The server address. |
| DHCP Chaddr of MS | The Client Hardware (MAC) Address (CHADDR) of MS. |
| Primary DNS Address | Specifies the primary Domain Name Server (DNS) IP address in IPv4 notation. NOTE: This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed. |

| Field | Description |
|------------------------|--|
| Secondary DNS Address | Specifies the secondary Domain Name Server (DNS) IP address in IPv4 notation. NOTE: This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed. |
| Primary NBNS Address | Specifies the primary NetBIOS Name Server (NBNS) IP address in IPv4 notation. NOTE: This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed. |
| Secondary NBNS Address | Specifies the secondary NetBIOS Name Server (NBNS) IP address in IPv4 notation. NOTE: This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed. |
| DHCP Call Type | The DHCP call type. |
| DHCP State | The DHCP state. |
| Lease time received | The IP address lease time received. |
| Lease time remaining | The IP address lease time remaining. |
| DHCP Messages: | |
| DISCOVER TX | The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retransmitted | The number of DHCPDISCOVER messages retransmitted by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER RX | The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER retried RX | The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| DISCOVER relayed | The number of DHCPDISCOVER messages relayed by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER RX | The number of DHCPOFFER messages received by the system to the DHCP server as part of the DHCP Proxy method. |

| Field | Description |
|-----------------------|---|
| OFFER Discarded | The number of DHCPOFFER messages discarded by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER TX | The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| OFFER relayed | The number of DHCPOFFER messages relayed by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST TX | The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST retransmitted | The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST RX | The number of DHCPREQUEST messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST renewal RX | The number of DHCPREQUEST renewal messages received by the system to the DHCP server as part of the DHCP Proxy method. |
| REQUEST relayed | The number of DHCPREQUEST messages relayed by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK RX | The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method. |
| ACK for INFORM | The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| ACK TX | The number of DHCPACK messages sent to the DHCP server as part of the DHCP Proxy method. |
| ACK Renewing TX | The number of DHCPACK renewal messages sent to the DHCP server as part of the DHCP Proxy method. |
| ACK relayed | The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method. |
| NAK RX | The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method. |
| NAK for INFORM | The number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method. |
| NAK TX | The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method. |
| NAK relayed | The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method. |

| Field | Description |
|---|---|
| DECLINE relayed | The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| RELEASE relayed | The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method. |
| INFORM relayed | The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method. |
| DHCP OFFER Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| Lease less than min | The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system. |
| Lease greater than max | The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system. |
| IP Validation failed | The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |
| DHCP ACK Discard Reasons: (dhcp-proxy) | |
| Parse error | The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: <ul style="list-style-type: none"> • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message" |
| DHCP DECLINE Reasons: (dhcp-proxy) | |

| Field | Description |
|---|---|
| IP mismatch | The number of DHCPDECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER. |
| IP Lease Renewals | The number of address lease renewal requests successfully processed. |
| Session Counters | |
| Total Current | The total number of currently active sessions on the system that received DHCP-assigned IP addresses. |
| DHCP Proxy | The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method. |
| DHCP Relay Agent | The total number of sessions that were assigned IP addresses using the DHCP Relay method. |
| DHCP Server | The DHCP server's IP address. |
| Total DHCP sessions matching specified criteria | The total number of DHCP sessions matching specified criteria. |



CHAPTER 43

show diameter

This chapter includes the **show diameter** command output tables.

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- [show diameter aaa-statistics misc-data](#), on page 808
- [show diameter authentication servers](#), on page 809
- [show diameter diactrl proxy-vm-map](#), on page 809
- [show diameter dynamic-dictionary all](#), on page 810
- [show diameter endpoints all](#), on page 810
- [show diameter message-queue counters outbound endpoint](#), on page 811
- [show diameter osid-info sessmgr](#), on page 813
- [show diameter osid-info sessmgr all](#), on page 814
- [show diameter peers full all](#), on page 814
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- [show diameter tps-statistics verbose](#), on page 824

show diameter aaa-statistics

Table 237: show diameter aaa-statistics Command Output Descriptions

| Field | Description |
|---------------------------------------|--|
| Authentication Servers Summary | |
| Message Stats | Total Diameter session message statistics. |
| Total MA Requests | Total number of Multimedia-Auth-Requests. |
| Total MA Answers | Total number of Multimedia-Auth-Answers. |
| MAR - Retries | Total number of Multimedia-Auth-Request retries. |
| MAA Timeouts | Total number of Multimedia-Auth-Answer timeouts. |
| MAA - Dropped | Total number of Multimedia-Auth-Answer dropped. |
| Total SA Requests | Total number of Server-Assignment-Requests. |

| Field | Description |
|-------------------|---|
| Total SA Answers | Total number of Server-Assignment-Answers. |
| SAR - Retries | Total number of Server-Assignment-Request retries. |
| SAA Timeouts | Total number of Server-Assignment-Answer timeouts. |
| SAA - Dropped | Total number of Server-Assignment-Answers dropped. |
| Total UA Requests | Total number of User-Authorization-Requests. |
| Total UA Answers | Total number of User-Authorization-Answers. |
| UAR - Retries | Total number of User-Authorization-Request retries. |
| UAA Timeouts | Total number of User-Authorization-Answer timeouts. |
| UAA - Dropped | Total number of User-Authorization-Answers dropped. |
| Total LI Requests | Total number of Location-Info-Requests. |
| Total LI Answers | Total number of Location-Info-Answers. |
| LIR - Retries | Total number of Location-Info-Request retries. |
| LIA Timeouts | Total number of Location-Info-Answer timeouts. |
| LIA - Dropped | Total number of Location-Info-Answers dropped. |
| Total RT Requests | Total number of Registration-Termination-Requests. |
| Total RT Answers | Total number of Registration-Termination-Answers. |
| RTR - Rejected | Total number of Registration-Termination-Requests rejected. |
| Total PP Requests | Total number of Push-Profile-Requests. |
| Total PP Answers | Total number of Push-Profile-Answers. |
| PPR - Rejected | Total number of Push-Profile-Requests rejected. |
| Total DE Requests | Total number of Diameter-EAP-Requests. |
| Total DE Answers | Total number of Diameter-EAP-Answers. |
| DEA - Accept | Total number of Diameter-EAP-Answers accepted. |
| DEA - Reject | Total number of Diameter-EAP-Answers rejected. |
| DER - Retries | Total number of Diameter-EAP-Request retries. |
| DEA Timeouts | Total number of Diameter-EAP-Answer timeouts. |
| DEA - Dropped | Total number of Diameter-EAP-Answer dropped. |

| Field | Description |
|-------------------------------|---|
| Total AA Requests | Indicates the total number of AA (Authentication and/or Authorization) Request messages sent by P-GW on S6b interface to AAA Server/Proxy. |
| Total AA Answers | Indicates the total number of AA (Authentication and/or Authorization) Answer messages received by P-GW on S6b interface from AAA Server/Proxy. |
| AAR - Retries | Indicates the total number of AAR (AA Request) messages retransmitted by P-GW on S6b interface to AAA Server/Proxy. |
| AAA Timeouts | Indicates the total number of AAA (AA Answer) messages timed-out due to no response from AAA Server/Proxy. |
| AAA - Dropped | Indicates the total number of AAA (AA Answer) messages dropped due any reason from AAA Server/Proxy. |
| ASR | Total number of Abort-Session-Requests. |
| ASA | Total number of Abort-Session-Answers. |
| RAR | Total number of Re-Auth-Requests. |
| RAA | Total number of Re-Auth-Answers. |
| STR | Total number of Session-Termination-Requests. |
| STA | Total number of Session-Termination-Answers. |
| STR - Retries | Total number of Session-Termination-Request retries. |
| AAA-Failure-Indication | Total number of times the AAA-Failure-Indication AVP is sent over Diameter Authentication interfaces (S6b/SWm/STa). |
| DE Message Error Stats | |
| Diameter Protocol Errs | Total number of Diameter protocol errors. |
| Bad Answers | Total number of bad answers. |
| Unknown Session Reqs | Total number of unknown session requests. |
| Unknown Command Code | Total number of unknown command codes. |
| Request Timeouts | Total number of request timeouts. |
| Parse Errors | Total number of parse errors. |
| Request Retries | Total number of request retries. |
| Session Stats | Diameter Session Statistics. |
| Total Sessions | Total number of sessions. |

| Field | Description |
|------------------------------------|--|
| Freed Sessions | Total number of freed sessions. |
| Session Timeouts | Total number of session timeouts. |
| Active Auth Sessions | Total number of active authentication sessions. |
| Active Acct Sessions | Total number of active accounting sessions. |
| FH Behavior (emps) | |
| Continue | Indicated the number of times the failure handling action "Continue" was triggered. |
| With Retry | Indicates the number of times failure handling action "continue with Retry" is taken using the eMPS template. |
| Without Retry | Indicates the number of times failure handling action "continue without Retry" is taken using the eMPS template. |
| Retry and Terminate | Indicates the number of times failure handling "Retry and Terminate" was triggered. |
| Retry and Terminate | Indicates the number of times failure handling "retry and terminate" is taken using eMPS template. |
| Retry Term without STR | Indicates the number of times failure handling "retry and terminate without STR" is taken using eMPS template. |
| Termination | Indicates the number of times failure handling "Termination" was triggered. |
| Terminate | Indicates the number of times failure handling "terminate" is taken using eMPS template. |
| Terminate without STR | Indicates the number of times failure handling "terminate without STR" is taken using eMPS template. |
| STR Termination Cause Stats | Session-Termination-Request termination cause statistics. |
| Diameter Logout | Total number of Session-Termination-Request terminations due to Diameter logouts. |
| Service Not Provided | Total number of Session-Termination-Request terminations due to service not provided. |
| Bad Answer | Total number of Session-Termination-Request terminations due to bad answers. |
| Administrative | Total number of Session-Termination-Request terminations due to administrative reasons. |
| Link Broken | Total number of Session-Termination-Request terminations due to links broken. |

| Field | Description |
|---------------------|---|
| Auth Expired | Total number of Session-Termination-Request terminations due to auth expiry. |
| User Moved | Total number of Session-Termination-Request terminations due to user moves. |
| Session Timeout | Total number of Session-Termination-Request terminations due to session timeouts. |
| User Request | Total number of Session-Termination-Request terminations due to user requests. |
| Lost Carrier | Total number of Session-Termination-Request terminations due to lost carriers. |
| Lost Service | Total number of Session-Termination-Request terminations due to lost service. |
| Idle Timeout | Total number of Session-Termination-Request terminations due to idle timeouts. |
| NAS Session Timeout | Total number of Session-Termination-Request terminations due to NAS session timeouts. |
| Admin Reset | Total number of Session-Termination-Request terminations due to admin resetting. |
| Admin Reboot | Total number of Session-Termination-Request terminations due to admin reboots. |
| Port Error | Total number of Session-Termination-Request terminations due to port errors. |
| NAS Error | Total number of Session-Termination-Request terminations due to NAS errors. |
| NAS Request | Total number of Session-Termination-Request terminations due to NAS requests. |
| NAS Reboot | Total number of Session-Termination-Request terminations due to NAS reboots. |
| Port Unneeded | Total number of Session-Termination-Request terminations due to unneeded ports. |
| Port Preempted | Total number of Session-Termination-Request terminations due to preempted ports. |
| Port Suspended | Total number of Session-Termination-Request terminations due to suspended ports. |
| Service Unavailable | Total number of Session-Termination-Request terminations due to unavailable service. |

| Field | Description |
|---------------------------------------|---|
| Callback | Total number of Session-Termination-Request terminations due to callback. |
| User Error | Total number of Session-Termination-Request terminations due to user errors. |
| Host Request | Total number of Session-Termination-Request terminations due to host requests. |
| Result Code Stats | |
| Result Code 1xxx | Total number of S6b messages processed and responded with the result code 1xxx. |
| Result Code 2xxx | Total number of S6b messages processed and responded with the result code 2xxx. |
| Result Code 3xxx | Total number of S6b messages processed and responded with the result code 3xxx. |
| Result Code 4xxx | Total number of S6b messages processed and responded with the result code 4xxx. |
| Result Code 5xxx | Total number of S6b messages processed and responded with the result code 5xxx. |
| Other Result Code | Total number of S6b messages processed and responded with the result code other than 1xxx –5xxx. |
| Experimental Result Code Stats | |
| Exp Result Code 5199 | Total number of times the Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199)" is received in the authentication response message. This result code is introduced to detect stale message requests and support session uniqueness. |
| S6b Stats | |
| Total Assume-positive | Total number of active subscribers which are in S6b by-passed state (assume positive). That is, the total count of active number of PDN sessions for which S6b by-passed. This statistics is available per aaamgr-instance level. |
| FH Behavior | |
| Continue | |
| With Retry | Total number of times the failure handling action "continue" is applied through the failure-handling-template. |

| Field | Description |
|--|---|
| Without Retry | Total number of times the failure handling action "continue-without-retry" is applied through the failure-handling-template. This failure action implies that the call will be continued without retrying to the secondary PCRF server. |
| Retry and Terminate | |
| Retry and Terminate | Total number of times the failure handling action "retry and terminate" is applied through the failure-handling-template. |
| Retry Term without STR | Total number of times the failure handling action "retry and terminate" is applied without sending the Session Terminate Request (STR) on call termination. |
| Termination | |
| Terminate | Total number of times the failure handling action "terminate" is applied through the failure-handling-template. |
| Terminate without STR | Total number of times the failure handling action "terminate" is applied through the failure-handling-template without the Session Terminate Request (STR). |
| Diameter Overload Control Stats | |
| AAA | Total number of times the Diameter Experimental Result-Code "DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY" (5198) is received in AAA message. |
| DEA | Total number of times the Diameter Experimental Result-Code "DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY" (5198) is received in DEA message. |
| Accounting Servers Summary | |
| Message Stats | Accounting message statistics. |
| Total AC Requests | Total number of AC-Requests. |
| Total AC Answers | Total number of AC-Answers. |
| ACR-Start | Total number of AC-Request starts. |
| ACA-Start | Total number of AC-Answer starts. |
| ACR-Start Retries | Total number of AC-Request start retries. |
| ACA-Start Timeouts | Total number of AC-Answer timeouts. Important This statistics is not supported in 17.0 and later releases. |

| Field | Description |
|-------------------------------|--|
| ACA-Start Req-Timeouts | Total number of times the AC-Answer Start Request timeout happens due to no response from CCF/peer. |
| ACA-Start Res-Timeouts | Total number of times the AC-Answer Start Response timeout happens due to no response from CCF/peer. |
| ACA-Interim Req-Timeouts | Total number of times the AC-Answer Interim Request timeout happens due to no response from CCF/peer. |
| ACA-Interim Res-Timeouts | Total number of times the AC-Answer Interim Response timeout happens due to no response from CCF/peer. |
| ACA-Stop Req-Timeouts | Total number of times the AC-Answer Stop Request timeout happens due to no response from CCF/peer. |
| ACA-Stop Res-Timeouts | Total number of times the AC-Answer Stop Response timeout happens due to no response from CCF/peer. |
| ACR-Interim | Total number of AC-Request interim. |
| ACA-Interim | Total number of AC-Answer interim. |
| ACR-Interim Retries | Total number of AC-Request interim retries. |
| ACA-Interim Timeouts | Total number of AC-Answer interim timeouts. Important This statistics is not supported in 17.0 and later releases. |
| ACR-Event | Total number of AC-Request events. |
| ACA-Event | Total number of AC-Answer events. |
| ACR-Stop | Total number of AC-Request stops. |
| ACA-Stop | Total number of AC-Answer stops. |
| ACR-Stop Retries | Total number of AC-Request stop retries. |
| ACA-Stop Timeouts | Total number of AC-Answer stop timeouts. Important This statistics is not supported in 17.0 and later releases. |
| ACA-Dropped | Total number of AC-Answers dropped. |
| ACR-Stop Event Stats | Accounting message Event statistics. |
| Service-Sp-Unit-Limit | Total number of ACR-STOP messages that are sent with the change-condition "SERVICE-SPECIFIC-UNIT-LIMIT". |
| AC Message Error Stats | Accounting message error statistics. |
| Diameter Protocol Errs | Total number of Diameter protocol errors. |

| Field | Description |
|--|---|
| Bad Answers | Total number of bad answers. |
| Unknown Session Reqs | Total number of unknown session requests. |
| Unknown Command Code | Total number of unknown command codes. |
| Request Timeouts | Total number of request timeouts. |
| Response Timeouts | Total number of response timeouts. |
| Parse Errors | Total number of parse errors. |
| Request Retries | Total number of request retries. |
| ACR Message Interim Event Stats | |
| Volume-limit | The total number of ACR-Interims that were triggered because of the event trigger "Volume-Limit" |
| Time-Limit | The total number of ACR-Interims that were triggered because of the event trigger "Time-Limit" |
| RAT-Change | The total number of ACR-Interims that were triggered because of the event trigger "RAT-Change" |
| TimeZone-Change | The total number of ACR-Interims that were triggered because of the event trigger "Timezone-Change" |
| PLMN-Change | The total number of ACR-Interims that were triggered because of the event trigger "PLMN-Change" |
| Max-Charging-Condition | The total number of ACR-Interims that were triggered because of the event trigger "Max-Charging-Condition" |
| Service-Data-Time-Limit | The total number of ACR-Interims that were triggered because of the event trigger "Service-Data-Time-Limit" |
| Service-Data-Vol-Limit | The total number of ACR-Interims that were triggered because of the event trigger "Service-Data-Volume-Limit" |
| AII-Timer | The total number of ACR-Interims that were triggered because of the event trigger "AII-Timer" |
| Result Code Stats | |
| Result Code 1xxx | Total number of Diameter accounting messages processed and responded with the result code 1xxx. |
| Result Code 2xxx | Total number of accounting messages processed and responded with the result code 2xxx. |
| Result Code 3xxx | Total number of accounting messages processed and responded with the result code 3xxx. |

| Field | Description |
|---|---|
| Result Code 4xxx | Total number of accounting messages processed and responded with the result code 4xxx. |
| Result Code 5xxx | Total number of accounting messages processed and responded with the result code 5xxx. |
| Other Result Code | Total number of accounting messages processed and responded with the result code other than 1xxx –5xxx. |
| Backpressure Stats | Diameter Backpressure statistics |
| Peer BP Queue Length | Displays the peer backpressure queue length. |
| Peer BP Queue Insertions | Displays the peer backpressure insertions to the queue. |
| Peer BP Queue deletions | Displays the peer backpressure deletions from the queue. |
| Global BP Queue Length | Displays the global backpressure queue length. |
| Global BP Queue Insertions | Displays the global backpressure insertions to the queue. |
| Global BP Queue Deletions | Displays the global backpressure deletions from the queue. |
| Duplicate Accounting Records Stats | |
| ACR-Start Dropped | Displays the total number of duplicate Rf START records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list. |
| ACR-Interim Dropped | Displays the total number of duplicate Rf INTERIM records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list. |
| ACR-Stop Dropped | Displays the total number of duplicate Rf STOP records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list. |

show diameter aaa-statistics misc-data

Table 238: show diameter aaa-statistics misc-data Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Facility | The AAA manager facility name. |
| Instance | The AAA manager instance number which has the highest backpressure statistics. |
| Max Peer BP Queue Length | The maximum peer backpressure queue length. |

| Field | Description |
|-------------|--|
| Max BP Time | The timestamp at which the maximum peer backpressure happened. |

show diameter authentication servers

Table 239: show diameter authentication servers Command Output Descriptions

| Field | Description |
|------------------------------|--|
| Context Name | Name of the context in which the Diameter servers are configured. |
| AAA Group | Name of the AAA group. |
| Endpoint | Name of the Diameter endpoint. |
| Peer | Name of the Diameter server host. |
| No of Instance in UP state | The number of instances between Diameter server and AAA Manager in up state. |
| No of Instance in DOWN state | The number of instances between Diameter server and AAA Manager in down state. |
| Priority | The relative priority of this server considered when the system is selecting which Diameter server to use. Lower number has higher priority. |
| Message Sent/Queued | The number of messages sent/queued from Diameter server to AAA Manager. |

show diameter diactrl proxy-vm-map

Table 240: show diameter diactrl proxy-vm-map Command Output Descriptions

| Field | Description |
|---|--|
| If the MAX mode is configured and if the Diameter proxy to VM mapping is available, the following new fields are displayed: | |
| diamproxy instance | Indicates the Diameter proxy instance. |
| Started on VM | Indicates the VM on which the Diameter proxy instance exists. |
| VM served | Indicates the number of VMs served for a particular Diameter proxy instance. |

| Field | Description |
|-------|--|
| | If the MAX mode is configured and if Diameter proxy to VM mapping is not available, the following message is displayed: Error: no valid diameter proxy to VM mapping present in diactrl |
| | If MAX mode is not configured, the following message is displayed: Info: proxy-vm-map CLI is valid only for max mode configuration of diamproxy |

show diameter dynamic-dictionary all

Table 241: show diameter dynamic-dictionary all Command Output Descriptions

| Field | Description |
|---|--|
| Dynamic Dictionary Name | Indicates the name of the configured Diameter dynamic dictionary. |
| vids | Indicates the vendor ID. |
| Base static dictionary | Displays the static dictionary number and name from which the dynamic dictionary is derived. Important This field will be displayed only if the "!base-dict <dictionary-number>" is configured in the dynamic dictionary's ABNF text file. If "!base-dict <dictionary-number>" is configured in the ABNF text file, the output will be of the form "<dictionary-number> / <dictionary-name>". By default, "Base static dictionary: 0 / dictzero" will be displayed. |
| Command Code (CC) followed by AVP list | Displays the list of AVPs and command codes defined in the dynamic dictionary. |
| Number of Command Codes defined | Indicates the number of command codes defined. |
| Number of AVPs defined | Indicates the number of AVPs defined. |
| Total Number of dynamic-dictionaries configured | Indicates the total number of dynamic dictionaries configured. |

show diameter endpoints all

Table 242: show diameter endpoints all Command Output Descriptions

| Field | Description |
|----------|---------------------------------|
| Context | Name of the configured context. |
| Endpoint | Name of the endpoint. |

| Field | Description |
|---|--|
| Realm | Domain (Realm) name for subscriber. |
| Task | Task running on ACSMgr or AAAMgr. |
| CPU | Indicates the Card and CPU number. |
| Application | Indicates the application running on ACSMgr or AAAMgr. |
| Total endpoints matching specified criteria | Indicates the total number of matching endpoints. |

show diameter message-queue counters outbound endpoint

Table 243: show diameter message-queue counters outbound endpoint Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Context | Name of the configured context. |
| Endpoint | Name of the endpoint. |
| Peer Host | Name of the peer host. |
| Peer Realm | Name of the peer realm. |
| Accounting-Answer | The number of outbound Accounting-Answer messages for the specified endpoint. |
| Accounting-Request | The number of outbound Accounting-Request messages for the specified endpoint. |
| Abort-Session-Answer | The number of outbound Abort-Session-Answer messages for the specified endpoint. |
| Abort-Session-Request | The number of outbound Abort-Session-Request messages for the specified endpoint. |
| Authorization-Authentication-Ans | The number of outbound Authorization-Authentication-Ans messages for the specified endpoint. |
| Authorization-Authentication-Req | The number of outbound Authorization-Authentication-Req messages for the specified endpoint. |
| Capabilities-Exchange-Answer | The number of outbound Capabilities-Exchange-Answer messages for the specified endpoint. |
| Capabilities-Exchange-Request | The number of outbound Capabilities-Exchange-Request messages for the specified endpoint. |
| Credit-Control-Answer | The number of outbound Credit-Control-Answer messages for the specified endpoint. |

show diameter message-queue counters outbound endpoint

| Field | Description |
|---------------------------------|---|
| Credit-Control-Request | The number of outbound Credit-Control-Request messages for the specified endpoint. |
| Device-Watchdog-Answer | The number of outbound Device-Watchdog-Answer messages for the specified endpoint. |
| Device-Watchdog-Request | The number of outbound Device-Watchdog-Request messages for the specified endpoint. |
| Diameter-EAP-Answer | The number of outbound Diameter-EAP-Answer messages for the specified endpoint. |
| Diameter-EAP-Request | The number of outbound Diameter-EAP-Request messages for the specified endpoint. |
| Disconnect-Peer-Answer | The number of outbound Disconnect-Peer-Answer messages for the specified endpoint. |
| Disconnect-Peer-Request | The number of outbound Disconnect-Peer-Request messages for the specified endpoint. |
| Location-Info-Answer | The number of outbound Location-Info-Answer messages for the specified endpoint. |
| Location-Info-Request | The number of outbound Location-Info-Request messages for the specified endpoint. |
| Multimedia-Auth-Answer | The number of outbound Multimedia-Auth-Answer messages for the specified endpoint. |
| Multimedia-Auth-Request | The number of outbound Multimedia-Auth-Request messages for the specified endpoint. |
| Profile-Update-Answer | The number of outbound Profile-Update-Answer messages for the specified endpoint. |
| Profile-Update-Request | The number of outbound Profile-Update-Request messages for the specified endpoint. |
| Push-Profile-Answer | The number of outbound Push-Profile-Answer messages for the specified endpoint. |
| Push-Profile-Request | The number of outbound Push-Profile-Request messages for the specified endpoint. |
| Re-Auth-Answer | The number of outbound Re-Auth-Answer messages for the specified endpoint. |
| Re-Auth-Request | The number of outbound Re-Auth-Request messages for the specified endpoint. |
| Registration-Termination-Answer | The number of outbound Registration-Termination-Answer messages for the specified endpoint. |

| Field | Description |
|---|--|
| Registration-Termination-Request | The number of outbound Registration-Termination-Request messages for the specified endpoint. |
| Server-Assignment-Answer | The number of outbound Server-Assignment-Answer messages for the specified endpoint. |
| Server-Assignment-Request | The number of outbound Server-Assignment-Request messages for the specified endpoint. |
| Session-Termination-Answer | The number of outbound Session-Termination-Answer messages for the specified endpoint. |
| Session-Termination-Request | The number of outbound Session-Termination-Request messages for the specified endpoint. |
| User-Authorization-Answer | The number of outbound User-Authorization-Answer messages for the specified endpoint. |
| User-Authorization-Request | The number of outbound User-Authorization-Request messages for the specified endpoint. |
| User-Data-Answer | The number of outbound User-Data-Answer messages for the specified endpoint. |
| User-Data-Request | The number of outbound User-Data-Request messages for the specified endpoint. |
| Total peers matching specified criteria | Indicates the total number of matching peers. |

show diameter osid-info sessmgr

Table 244: show diameter osid-info sessmgr Command Output Descriptions

| Field | Description |
|---------------|--|
| SessMgr Inst | Session Manager instance number. |
| Peer Hostname | Name of the peer host. |
| Peer Realm | Peer domain (realm) name for Subscriber. |
| OSID | Peer origin state identifier. |
| Timestamp | Timestamp at which the maximum peer backpressure occurred. |
| Calls Cleared | Number of calls cleared. |

show diameter osid-info sessmgr all

Table 245: show diameter osid-info sessmgr all Command Output Descriptions

| Field | Description |
|---------------|--|
| SessMgr Inst | Session Manager instance number. |
| Peer Hostname | Name of the peer host. |
| Peer Realm | Peer domain (realm) name for Subscriber. |
| OSID | Peer origin state identifier. |
| Timestamp | Timestamp at which the maximum peer backpressure occurred. |
| Calls Cleared | Number of calls cleared. |

show diameter peers full all

Table 246: show diameter peers full all Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Context | Name of the context. |
| Endpoint | Name of the endpoint. |
| Inbound listening sockets | Displays listening Diameter interface:ports information when origin-host is configured as of "accept-inbound" connection type. If no inbound sockets are present these fields are not displayed. |
| Local Host | Name of the local host. |
| Local Address | IP address and port number of the local host. |
| Endpoint | Name of the endpoint. |
| Task | The task instance running on ACSMgr or AAAMgr. |
| Peer Hostname | Name of the peer host. |
| Local Hostname | Name of the local host. |
| Peer Realm | Peer domain (realm) name for Subscriber. |
| Local Realm | Local domain (realm) name for Subscriber. |
| Peer Address | Address of peer domain (realm). |
| Local Address | Address of local domain (realm). |

| Field | Description |
|---|--|
| State | Indicates the connection status. |
| CPU | The Card and CPU number. |
| Messages Out/Queued | The number of messages sent out/queued. Important Release 12.0 onwards, this statistic will not indicate the count of outstanding messages for Diameter proxy peers. |
| Task | The task running on ACSMgr or AAAMgr. |
| Supported Vendor IDs | The supported vendor IDs. |
| Admin Status | Indicates the admin status. Whether the user can administratively disable a peer while still preserving its configuration. |
| DPR Disconnect | Indicates the Disconnect-Peer-Request disconnect cause. |
| Peer Backoff Timer State | Indicates whether or not the peer-backoff-timer is running. |
| Peer Origin-State-Id | Peer origin state identifier of the peer (if enabled). |
| Total peers matching specified criteria | The total number of peers matching the criteria. |

show diameter statistics

Table 247: show diameter statistics Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Connection statistics | |
| Connection attempts | The total number of connections attempted. |
| Connection failures | The total number of connections failed. |
| Connection reads | The total number of connections read. |
| Connection starts | The total number of connections started. |
| Connection disconnects | The total number of connections disconnected |
| Connection closes | The total number of connections closes. |
| Connection DHOST requests | The total number of connections with DHOST requested. |
| Connection DHOST removes | The total number of connections with DHOST removed. |
| Connection Timeouts | The total number of connections timed out. |

| Field | Description |
|---|---|
| Tc Expire Connection Attempts | The total number of connections attempted due to Tc timer expired. Note: The Tc timer controls the frequency that transport connection attempts are done to a peer with whom no active transport connection exists. |
| Tw Expire Connection Closes | The total number of connections closed due to Tw timer expired. |
| Tx Expire | On the expiry of application level timer (Tx/Pending timeout), the application like Gy and Gx will decide what failure handling has to be taken for the message sent to the server. This stats will be incremented if this application level Tx timer expires. |
| Application initiated Retries | If the application determines a failure on one connection on which the request message was sent to, it will retry the message to an alternate server if available. This stats will be used if the application decides to retry the message to alternate server. |
| Connection failure statistics | |
| Connection bind errors | The total number of connections failed during binding errors. |
| Connection connect errors | The total number of connections failed during connect errors. |
| Connection address errors | The total number of connections failed due to address errors. |
| Connection misc errors | The total number of connections failed due to other errors not mentioned in output. |
| Connection DHOST errors | The total number of connections failed due to DHOST errors. |
| Capabilities Exchange Request and Answers statistics | |
| Connection CER sent | The total number of Capabilities Exchange Request (CER) messages sent for connection. |
| Connection CER send errors | The total number of connections failed due to errors during CER messages sent. |
| CERs received | The total number of CER messages received. |
| Connection CER create failures | The total number of connections failed during CER message creation. |
| CEAs received | The total number of Capabilities Exchange Answer (CEA) messages received. |
| CEA AVPs unknown | The total number of unknown Attribute Value Pairs (AVPs) related to CEA message. |
| CEA Application ID mismatch | The total number of CEA Application ID mismatch. |
| Read CEA Messages | The total number of READ messages for CEA. |

| Field | Description |
|--|--|
| Read CEA Messages Unexpected | The total number of unexpected READ messages for CEA. |
| Read CEA Missing | The total number of missing READ messages for CEA. |
| Read CEA Negotiation Failure | The total number of failures in READ messages negotiation for CEA. |
| Read CER Messages | The total number of READ messages for CER. |
| Read CER Messages Unexpected | The total number of unexpected READ messages for CER. |
| Read CER Missing | The total number of missing READ messages for CER. |
| Tw Expire Waiting for CEA | The total number of CEAs waiting for answer due to Tw timer expired. NOTE: The Tw timer controls the changing of a peer to the SUSPECT state when no answer is received to a watchdog request. |
| Device Watchdog Requests and Answers statistics | |
| DWA attempts | The total number of attempts for Device Watchdog Answer (DWA). |
| DWA handle allocation failures | The total number of failures to handle allocation of DWA. |
| DWAs sent | The total number of DWA messages sent. |
| DWR send errors | The total number of errors while sending DWR messages. |
| Read DWA Messages | The total number of READ messages for DWA. |
| Read DWA Messages Unexpected | The total number of unexpected READ messages for DWA. |
| Read DWR Messages | The total number of missing READ messages for DWR. |
| Tw Expire Send DWR | The total number of DWRs sent due to Tw timer expired. |
| Send DWR Attempts | The total number of attempts to send 'DWR Sent' messages. |
| Send DWR Send Errors | The total number of errors while sending 'DWR Sent' messages. |
| Send DWR Calls | The total number of calls for 'DWR Sent' messages. |
| Send DWR MH Errors | The total number of message handling errors for 'DWR Sent' messages. |
| Disconnect Peer Request and Answers statistics | |
| DPRs Sent | If the diameter base protocol decides to close a connection, it will send a Disconnect-Peer-Request (DPR) to the server to notify the reason for disconnection. This statistics will be incremented when diameter base protocol sends a DPR to the system. |

| Field | Description |
|--|--|
| DPA's Received | This statistics will be incremented for the reception of Answer message the server responded for the Disconnect-Peer-Request that was sent earlier. |
| DPR attempts | This statistics will be incremented when the database base protocol decides to send a Disconnect-Peer-Answer to the server as a response to the Disconnect-Peer-Request that was sent earlier. This will be the same as "DPA's Sent" statistics if there is no failure in sending the DPA out. |
| DPA's Sent | This statistics will be incremented if a Disconnect-Peer-Answer is sent to the server as a response to the Disconnect-Peer-Request that was sent earlier. This will happen in case of server initiated connection closure. This will be the same as "DPR attempts" statistics if there is no failure in sending the DPA out. |
| DPR send errors | When a DPR is sent out for connection closure and if the sending of DPR is failed due to some connection issue, this statistics will be incremented. |
| DPA Message handle allocation | When a DPA is sent out for connection closure and if the sending of DPA is failed due to failure in creating the DPA message, this statistics will be incremented. |
| DPR error immclose | When a DPA is sent out for connection closure and if the sending of DPA is failed due to failure in creating the DPA message, the connection will be closed immediately. This statistics is incremented for those immediate closures without sending a DPA. |
| Read DPR Messages | This statistics will be incremented when the DPR request received from the server is successfully parsed. |
| DPA No Host Error | This statistics will be incremented if a DPR message is received without including Origin-Host AVP. |
| Session Discovery Request and Answer Statistics | |
| Read SDRs | The total number of SDR read success |
| Read SDR Errors | The total number of SDR read failures |
| Write SDAs | The total number of SDR write success |
| Write SDA Errors | The total number of SDR write errors |
| Session Not Found | The total number of requests received to recover the session but the session is not found. |
| Create Messages statistics | |
| Calls | The total number of calls for 'Create' message. |
| Success | The total number of messages successful for 'Create' message. |

| Field | Description |
|---------------------------------|--|
| Routed | The total number of messages routed for 'Create' message. |
| Directed | The total number of messages directed for 'Create' message. |
| Buffer Errors | The total number of errors for 'Create' message buffer. |
| Peer Never Up Errors | The total number of errors due to peer failure for 'Create' message. |
| Window Errors | The total number of errors due to 'Create' message window. |
| Unsupported Application Errors | The total number of errors due to unsupported applications for 'Create' message. |
| Message Parse statistics | |
| Message Pool Expand Attempts | The total number of attempts for message pool expansion. |
| Buffer Expand Attempts | The total number of attempts for buffer expansion. |
| Calls | The total number of calls for message parsing. |
| Too Many AVP Errors | The total number of message parsed having excessive AVP errors. |
| Header Errors | The total number of message parsed having header errors. |
| AVP Unknown Errors | The total number of message parsed having unknown AVP errors (errors not listed here). |
| Runt Errors | The total number of message parsed having runtime errors. |
| AVP Header Errors | The total number of message parsed having AVP header errors. |
| Message Protocol Error | The total number of message parsed having protocol errors. |
| Mand AVP Unknown Errors | The total number of message parsed having unknown errors for mandatory AVP. |
| Message aborts | The total number of message aborted during parsing. |
| Send Message statistics | |
| Calls | The total number of calls for 'Send' message. |
| Truncated Errors | The total number of truncated errors for 'Send' message. |
| Read Statistics | |
| Read Bytes | The total number of bytes read. |
| Read Messages Total | The total number of 'Read' messages. |
| Requests Read | The total number of requests for 'Read' messages. |
| Requests Timed Out | The total number of requests timed out for 'Read' messages. |

| Field | Description |
|------------------------------|--|
| Answers Read | The total number of answers read for 'Read' messages. |
| Answers Timed Out | The total number of answers timed out for 'Read' messages. |
| Read Application Messages | The total number of 'Read application' messages. |
| Unexpected Answers Read | The total number of unexpected answers for 'Read' messages. |
| Read Parse statistics | |
| Begin | The total number of parsing begins for 'Read' message. |
| E2E Errors | The total number of End-to-End (E2E) errors during parsing of 'Read' message. |
| Success | The total number of successful parsing of 'Read' message. |
| Application ID Errors | The total number of errors with Application Id during parsing of 'Read' message. |
| Command/Flag Errors | The total number of command or flag errors during parsing of 'Read' message. |
| Diameter Protocol Errors | The total number of Diameter protocol errors during parsing of 'Read' message. |
| Errors | The total number of errors during parsing of 'Read' message. |
| Length Padding Errors | The total number of 'Length Padding' errors during parsing of 'Read' message. |
| H2H Errors | The total number of Host-to-Host (H2H) errors during parsing of 'Read' message. |
| Length Too Long | The total number of message parsed having excessive length of 'Read' message. |
| Command Unknown | The total number of message parsed having unknown command in 'Read' message. |
| Length Sanity Errors | The total number of message parsed having invalid length of 'Read' message. |
| Length-v-SCTP EOR Errors | The total number of "Length-v-SCTP EOR" errors during parsing of "Read" message. |
| SCTP Missing EOR Errors | The total number of "SCTP Missing EOR" errors during parsing of "Read" message. |
| Write statistics | |
| total | The total number of calls for 'Write' message. |

| Field | Description |
|---------------------------------|--|
| while OPEN | The total number of calls for 'Write' message while connection is OPEN. |
| while IDLE | The total number of calls for 'Write' message while connection is IDLE. |
| in other states | The total number of calls for 'Write' message while connection state is other than OPEN or IDLE state. |
| backpressure events | The total number of Write messages over the maximum number of outstanding messages to queue. |
| Written bytes | The total number of bytes written. |
| iterations | The total number of write iterations. |
| Written messages | The total number of messages written. |
| EOFs | The total number of 'Write' messages with End-of-File (EOFs). |
| errors | The total number of 'Write' message with errors. |
| Peer Calls statistics | |
| Open Calls | The total number of calls to open a peer. |
| Close Calls | The total number of calls to close a peer. |
| Open New Peer | The total number of calls to open a new peer. |
| Open Unknown Peer Errors | The total number of calls to open an unknown peer. |
| Open Misses | The total number of missed attempts to open a peer. |
| Route statistics | |
| Adds | The total number of routes added. |
| Expires | The total number of routes expired. |
| Hits | The total number of hits to a route. |
| Misses | The total number of routes missed. |
| Indirects | The total number of indirect route. |
| Installs | The total number of redirected routes installed. |
| Dynamic Route statistics | |
| Adds | The total number of dynamic routes added. |
| Add Failures | The total number of failures in adding dynamic routes. |
| Removes | The total number of dynamic routes removed. |

| Field | Description |
|--------------------------------|--|
| Hits | The total number of hits to a dynamic route. |
| Expires | The total number of dynamic routes expired. |
| Latency statistics | |
| Last Round Trip Time (ms) | The last round trip time, in milliseconds. |
| Average Round Trip Time (ms) | The average round trip time in milliseconds. |
| Renegotiate Peer Messages | The number of times the database interacts with Diameter proxy to renegotiate peer connections when the Diameter dictionary changes. |
| Redirect Host Usage: | |
| Redirected Host | The number of times the host is redirected. |
| Redirect Not Cached | The number of times the redirected host is not cached. |
| Redirect All Session | The number of times all messages within the session are sent to Redirect-Host. |
| Redirect All Realm | The number of times all messages destined to Realm are sent to Redirect-Host. |
| Redirect Realm and Application | The number of times the messages for application requested to Realm are sent to Redirect-Host. |
| Redirect All Application | The number of times all messages for application are sent to Redirect-Host. |
| Redirect All Host | The number of times the messages sent to Redirect-Host AVP value instead of Redirect-Host value sent by the host. |
| Redirect All User | The number of times the message for user sent to Redirect-Host value. |
| Peer Backoff Timer | |
| Start-count | The total number of times the peer-backoff-timer is started. |
| Stop-count | The total number of times the peer-backoff-timer is expired. |
| Diameter DNS Statistics | |
| DNS Init | The total number of times an application (database/proxy) initialized an instance of a DNS library. |
| DNS De-Init | The total number of times an application (database/proxy) closed an instance of a DNS library. |
| VPN Init Request | The total number of init request messages sent to VPN managers from a library. |

| Field | Description |
|---------------------|--|
| VPN Init Response | The total number of init response messages received from the VPN managers to a library. |
| VPN Init Success | The total number of init success messages received from the VPN managers to a library. |
| VPN Init Timeout | The total number of failed init responses received from the VPN managers to a library due to a timeout. |
| DNS A Requests | The total number of A-type (IPv4) requests sent to the VPN from the library. |
| DNS A Responses | The total number of A-type (IPv4) responses received by the library from the VPN. |
| DNS A Hits | The total number of A-type (IPv4) responses received by the library from the VPN with valid addresses. |
| DNS A Timeouts | The total number of A-type (IPv4) response failures due to timeout. |
| DNS AAAA Requests | The total number of AAAA-type (IPv6) requests sent to the VPN from the library. |
| DNS AAAA Responses | The total number of AAAA-type (IPv6) responses received by the library from the VPN. |
| DNS AAAA Hits | The total number of AAAA-type (IPv6) responses received by the library from the VPN with valid addresses. |
| DNS AAAA Timeouts | The total number of AAAA-type (IPv6) response failures due to timeout. |
| DNS NAPTR Requests | The total number of Naming Authority Pointer requests sent to the VPN from the library. |
| DNS NAPTR Responses | The total number of Naming Authority Pointer responses received by the library from the VPN. |
| DNS NAPTR Hits | The total number of Naming Authority Pointer responses received by the library from the VPN with valid URIs. |
| DNS NAPTR Timeouts | The total number of Naming Authority Pointer response failures due to timeout. |
| DNS SRV Requests | The total number of Service Locator requests sent to the VPN from the library. |
| DNS SRV Responses | The total number of Service Locator responses received by the library from the VPN. |
| DNS SRV Hits | The total number of Service Locator responses received by the library from the VPN with valid locations. |

| Field | Description |
|------------------------|---|
| DNS SRV Timeouts | The total number of Service Locator response failures due to timeout. |
| A Type App Request | The total number of A-type requests made by the application to the library. Single application request can result in multiple library to VPN manager requests and vice versa. |
| AAAA Type App Request | The total number of AAAA-type requests made by the application to the library. Single application request can result in multiple library to VPN manager requests and vice versa. |
| NAPTR Type App Request | The total number of Naming Authority Pointer requests made by the application to the library. Single application request can result in multiple "library to VPN manager requests and vice versa. |

show diameter tps-statistics verbose

Table 248: show diameter tps-statistics verbose Command Output Descriptions

| Field | Description |
|--------------------------------------|---|
| Application/ID | The name and the identifier of all configured Diameter applications for which the TPS KPI statistics are collected. The Diameter applications, for example, could be Gx, Gy, Rf, etc. |
| Average TPS | This is the sum average of all TPS values computed. |
| Maximum TPS | Indicates the maximum TPS value for the specified configuration. |
| Last 1 Sec Average TPS | Average value of TPS computed for the last 1 second. |
| Last 10 Secs Average TPS | Average value of TPS computed for the last 10 seconds. |
| Last 30 Secs Average TPS | Average value of TPS computed for the last 30 seconds. |
| Last 60 Secs Average TPS | Average value of TPS computed for the last 60 seconds. |
| Last 5 Mins Average TPS | Average value of TPS computed for the last 5 minutes. |
| Last 10 Mins Average TPS | Average value of TPS computed for the last 10 minutes. |
| Last 15 Mins Average TPS | Average value of TPS computed for the last 15 minutes. |
| Total number of TPS Statistics found | Shows the total number of TPS statistics collected. |

**Important**

The output of **show diameter tps-statistics diamproxy** *diamproxy_num*, **show diameter tps-statistics application** *application_name* **summary**, **show diameter tps-statistics application** *application_name* **endpoint** *endpoint_name* **summary**, **show diameter tps-statistics application** *application_name* **endpoint** *endpoint_name* **verbose** commands are almost similar to the **show diameter tps-statistics verbose** command output. The output fields might vary depending on the configuration.



CHAPTER 44

show diameter-hdd-module

This chapter includes the **show diameter-hdd-module** command output tables.

- [show diameter-hdd-module file-space-usage](#), on page 827
- [show diameter-hdd-module statistics](#), on page 827

show diameter-hdd-module file-space-usage

Table 249: show diameter-hdd-module file-space-usage Command Output Descriptions

| Field | Description |
|--|---|
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Diameter-hdd-module File Storage LIMIT | Displays the configured storage limit for Diameter files. |
| Diameter-hdd-module File Storage USAGE | Displays the hard disk space utilized for the Diameter files. |
| Percentage of Diameter-hdd-module file store usage | Displays the percentage of hard-disk space utilized for the Diameter files. |

show diameter-hdd-module statistics

Table 250: show diameter-hdd-module statistics Command Output Descriptions

| Field | Description |
|---|---|
| Diameter-hdd-Module file Statistics | |
| CDRMOD Instance Id | The CDRMOD instance identifier. |
| Overall Statistics | |
| Diameter-hdd-module files rotated | Total number of Diameter files rotated. |
| Diameter-hdd-module files rotated due to volume limit | Total number of Diameter files rotated due to volume limit. |

| Field | Description |
|--|--|
| Diameter-hdd-module files rotated due to time limit | Total number of Diameter files rotated due to time limit. |
| Diameter-hdd-module files rotated due to tariff-time | Total number of Diameter files rotated due to tariff time. |
| Diameter-hdd-module files rotated due to records limit | Total number of Diameter files rotated because of record limits. |
| Diameter-hdd-module file rotation failures | Total number of times rotation failed for Diameter file. |
| Diameter-hdd-module files deleted | Total number of Diameter files deleted. |
| Diameter-hdd-module records deleted | Total number of Diameter records deleted. |
| Diameter-hdd-module records received | Total number of Diameter records received by the service. |
| Current open Diameter-hdd-module files | Total number of Diameter files that are currently open. |
| Time of last Diameter-hdd-module file deletion | Date and time of last Diameter file deleted. |
| Diameter-hdd-module PUSH Statistics | |
| Overall Statistics | |
| Primary Server Statistics | |
| Secondary Server Statistics | |
| Successful File Transfers | Total number of successful file transfers. |
| Failed File Transfers | Total number of failed file transfers. |
| Num of times PUSH initiated | Total number of times a Diameter-hdd push attempt was initiated. |
| Num of times PUSH Failed | Total number of times a Diameter-hdd push attempt failed. |
| Num of times PUSH cancelled due to HD failure | Total number of times a Diameter-hdd push was cancelled due to hard disk failures. |
| Num of periodic PUSH | Total number of periodic push. |
| Num of manual PUSH | Total number of manual push. |
| Current status of PUSH | Indicates the current status of push – Running/Not Running. |
| Last completed PUSH time | The date and time the last push completed. |



CHAPTER 45

show dns-client

This chapter includes the **show dns-client** command output tables.

- [show dns-client, on page 829](#)

show dns-client

Table 251: show dns-client statistics client <client_name> Command Output Descriptions

| Field | Description |
|----------------------|---|
| DNS Usage Statistics | |
| Query Type | The type of DNS queries performed. Possible type of DNS queries are: A: The total A (IPv4 address record) type of queries. SRV: The total SRV (service locator) type of queries. AAAA: The total AAAA (IPv6 address record) type of queries. NAPTR: The total NAPTR (Naming Authority Pointer) type of queries. |
| Attempts | The total number of DNS query of specific type attempted. |
| Successes | The total number of attempted and successful DNS query of specific type. |
| Failures | The total number of attempted but failed DNS query of specific type. |
| Total queries | The total number of queries including A, SRV, and NAPTR type of queries. |
| DNS Cache Statistics | |
| Central Cache | The domain name lookups cached in central (remote) location. |
| Local Cache | The domain name lookups cached in local location. |

| Field | Description |
|------------------------------------|---|
| Total Lookups | The total domain name lookups cached in central (remote) and local location. |
| Cache Hits (Positive Response) | The total number of hits with positive response. |
| Cache Hits (Negative Response) | The total number of hits with negative response. |
| Not Found in Cache | The total number of hits which have no record in central or local cache memory. |
| Hit Ratio (Percentage) | The percentage of domain records hit and found in central or local cache memory. |
| DNS Resolver Statistics | |
| Primary (or Secondary) Name Server | The IP address of the primary or secondary DNS (as specified by the display field title). |
| Query Type | The type of DNS queries performed. Possible type of DNS queries are: A: The total A (IPv4 address record) type of queries. SRV: The total SRV (service locator) type of queries. AAAA: The total AAAA (IPv6 address record) type of queries. NAPTR: The total NAPTR (Naming Authority Pointer) type of queries. |
| Attempts | The total number of DNS query of specific type attempted. |
| Successes | The total number of attempted and successful DNS query of specific type. |
| Failures | The total number of attempted but failed DNS query of specific type. |
| Total Resolver Queries | The total number of resolver queries made to the specified DNS of all query types. |
| Successful Queries | The total number of queries resolved successfully. |
| Query Timeouts | The total number of queries went timeout. |
| Domain Not Found | The total number of queries where domain name not found. |
| Connection Refused | The total number of queries for a domain for which connection refused. |
| Other Failures | The total number of queries failed due to reasons other that listed here. |



CHAPTER 46

show dynamic-policy

This chapter includes the **show dynamic-policy** command output tables.

- [show dynamic-policy statistics, on page 831](#)

show dynamic-policy statistics

Table 252: show dynamic-policy statistics Command Output Descriptions

| Field | Description |
|------------------------|--|
| Dynamic Policy Stats | |
| PCC rule stats | |
| Install requests | Total number of Policy Control and Charging (PCC) rule install requests. |
| Remove requests | Total number of PCC rule removal requests. |
| Installed uplink | Total number of PCC rules installed for uplink direction. |
| Installed downlink | Total number of PCC rules installed for downlink direction. |
| Activate requests | Total number of PCC rule activate requests. |
| Deactivate requests | Total number of PCC rule deactivate requests. |
| Activate group | Total number of policy groups activated. |
| Deactivate group | Total number of policy groups deactivated. |
| PCC rule failure stats | |
| Install failure | Total number of PCC rule install failures. |
| Remove failure | Total number of PCC rule removal failures. |
| Activation failure | Total number of PCC rule activation failures. |
| Deactivation failure | Total number of PCC rule deactivation failures. |

| Field | Description |
|----------------------------|---|
| Group activation failure | Total number of policy group activation failures. |
| Group deactivation failure | Total number of policy group deactivation failures. |
| Event stats | |
| Session up | Total number of subscriber sessions up. |
| Session down | Total number of subscriber sessions down. |
| Handoff | Total number of handoffs occurred. |
| RAT change | Total number of Radio Access Type (RAT) changes occurred. |
| User location change | Total number of user location changes occurred. |
| Default Bearer QoS change | Total number of default bearer QoS changes occurred. |
| Flow create | Total number of flows created. |
| Flow delete | Total number of flows deleted. |
| Bearer loss | Total number of bearer loss. |
| Bearer recovery | Total number of bearer recoveries after loss of bearer. |
| Update tft | Total number of Traffic Flow Template (TFT) updates. |
| Update qos | Total number of QoS updates. |
| UE Time Zone change | Total number of UE time zone changes occurred. |
| Event failure stats | |
| Session up | Total number of session up failures. |
| Session down | Total number of session down failures. |
| Handoff | Total number of handoff failures. |
| RAT change | Total number of RAT change failures. |
| User location change | Total number of user location change failures. |
| Default Bearer QoS change | Total number of default bearer QoS change failures. |
| Flow create | Total number of flow creation failures. |
| Flow delete | Total number of flow deletion failures. |
| Bearer loss | Total number of bearer loss failures. |
| Bearer recovery | Total number of bearer recovery failures. |
| Update tft | Total number of TFT update failures. |

| Field | Description |
|---------------------------|--|
| Update qos | Total number of QoS update failures. |
| UE Time Zone change | Total number of UE time zone change failures. |
| Auth stats | |
| Auth request | Total number of authorization requests sent. |
| Auth failure | Total number of authorization request failures. |
| Reauth request | Total number of re-authorization requests sent. |
| Reauth request failure | Total number of re-authorization request failures. |
| Terminate request | Total number of terminate requests sent. |
| Terminate request failure | Total number of terminate request failures. |



CHAPTER 47

show egtp

This chapter includes the **show egtp** command output tables.

- [show egtpc peers interface](#), on page 835
- [show egtpc peers path-failure-history](#), on page 836
- [show egtpc statistics path-failure-reasons](#), on page 837
- [show egtp-service all](#), on page 839
- [show egtpc sessions](#), on page 842
- [show egtpc statistics](#), on page 844
- [show egtpc statistics verbose](#), on page 882
- [show egtp-service all](#), on page 900

show egtpc peers interface

Table 253: show egtpc peers interface Command Output Descriptions

| Field | Description |
|----------------------|--|
| Status | The status of the GTPC session. - A : Online/Active - I : Offline/Inactive |
| GTPC Echo | Displays whether GTPC echo is enable or not. - D : Disabled - E : Enabled |
| Restart Counter | Displays whether restart counter messages have been sent or not. - S : Sent - N : Not Sent |
| Peer Restart Counter | Displays the status of the peer restart counter. - K : Known - U : Unknown |

| Field | Description |
|------------------|---|
| Type of Node | Indicates the type of node with which the interface communicates. - S: SGW - P: PGW - M: MME - G: SGSN |
| Node Feature | Indicates the Node Feature capability of the peer. - P: P-GW Restart Notification - M: Modify Access Bearer Request - N: Network triggered Service Request |
| Service ID | The Service ID for the eGTP service |
| Peer Address | Indicates the IP address of the peer service (MME/P-GW/S-GW). |
| Restart Counter | Indicates the restart counter value. |
| No. of restarts | Indicates the number of restarts of the peer node (MME/S-GW/P-GW). |
| Current sessions | Indicates the number of sessions currently active on eGTP service. |
| Max sessions | Indicates the total number of sessions allowed on this eGTP service. |

show egtpc peers path-failure-history

This command provides path failure history information for the last five path failures per peer. This information assists operators in isolating the root cause of eGTP-C path failures in the network

| Field | Description |
|----------------------|---|
| Peer Address | The IP address of the peer involved in the GTP-C path failure. |
| Time of Path Failure | The date and time of the GTP-C path failure. |
| Reason | The reason for the GTP-C path failure. |
| Event/Msg Type | The event or message type related to the GTP-C path failure. |
| Old RC | The old restart counter value. |
| New RC | The new restart counter value. |
| Session Count | The total number of sessions at the time of the GTP-C path failure. |
| IMSI | The subscriber IMSI at the time of the GTP-C path failure. |

| Field | Description |
|-------------|--|
| Local TEID | The local tunnel endpoint identifier. |
| Remote TEID | The remote tunnel endpoint identifier. |

show egtpc statistics path-failure-reasons

The output of this command provides detailed statistics for the types of eGTP-C path failures that have been detected. These statistics assist operators in isolating the root cause of eGTP-C path failures in the network.

Table 254: show egtpc statistics path-failure-reasons Command Output Descriptions

| Field | Description |
|--|---|
| Reasons for path failure at EGTPC | |
| Echo Request restart counter change | The total number of GTP-C path failures detected due to an Echo Request restart counter change. |
| Echo Response restart counter change | The total number of GTP-C path failures detected due to an Echo Response restart counter change. |
| No Echo Response received | The total number of GTP-C path failures detected due to an no Echo Response received. |
| Control message restart counter change at demux | |
| Create Session Request | The total number of GTP-C path failures detected due to a Create Session Request control message restart counter change at the demuxmgr. |
| Forward Relocation Request | The total number of GTP-C path failures detected due to a Forward Relocation Request control message restart counter change at the demuxmgr. |
| MBMS Session Start Request | The total number of GTP-C path failures detected due to an MBMS Session Start Request control message restart counter change at the demuxmgr. |
| Control message restart counter change at sessmgr | |
| Modify Bearer Request | The total number of GTP-C path failures detected due to a Modify Bearer Request control message restart counter change at the sessmgr. |
| Create Session Response | The total number of GTP-C path failures detected due to a Create Session Response control message restart counter change at the sessmgr. |
| Modify Bearer Response | The total number of GTP-C path failures detected due to a Create Session Response control message restart counter change at the sessmgr. |
| Delete Session Response | The total number of GTP-C path failures detected due to a Delete Session Response control message restart counter change at the sessmgr. |

| Field | Description |
|--|---|
| Delete Bearer Response | The total number of GTP-C path failures detected due to a Delete Bearer Response control message restart counter change at the sessmgr. |
| Update Bearer Response | The total number of GTP-C path failures detected due to a Update Bearer Response control message restart counter change at the sessmgr. |
| Create Bearer Response | The total number of GTP-C path failures detected due to a Create Bearer Response control message restart counter change at the sessmgr. |
| Release Access Bearer Response | The total number of GTP-C path failures detected due to a Release Access Bearer Response control message restart counter change at the sessmgr. |
| Downlink Data Notification Acknowledge | The total number of GTP-C path failures detected due to a Release Access Bearer Response control message restart counter change at the sessmgr. |
| Delete Bearer Command Failure Indication | The total number of GTP-C path failures detected due to a Delete Bearer Command Failure Indication control message restart counter change at the sessmgr. |
| Bearer Resource Command Failure Indication | The total number of GTP-C path failures detected due to a Bearer Resource Command Failure Indication control message restart counter change at the sessmgr. |
| Modify Bearer Command Failure Indication | The total number of GTP-C path failures detected due to a Modify Bearer Command Failure Indication control message restart counter change at the sessmgr. |
| Create Ind Data Forwarding Response | The total number of GTP-C path failures detected due to a Create Ind Data Forwarding Response control message restart counter change at the sessmgr. |
| Delete Ind Data Forwarding Response | The total number of GTP-C path failures detected due to a Delete Ind Data Forwarding Response control message restart counter change at the sessmgr. |
| Forward Relocation Complete Acknowledge | The total number of GTP-C path failures detected due to a Forward Relocation Complete Acknowledge control message restart counter change at the sessmgr. |
| MBMS Session Start Response | The total number of GTP-C path failures detected due to a MBMS Session Start Response control message restart counter change at the sessmgr. |
| MBMS Session Stop Response | The total number of GTP-C path failures detected due to a MBMS Session Stop Response control message restart counter change at the sessmgr. |
| MBMS Session Update Response | The total number of GTP-C path failures detected due to a MBMS Session Update Response control message restart counter change at the sessmgr. |

| Field | Description |
|--|--|
| Total path failures detected | The total number of GTP-C path failures detected for any reason. |
| Path failure detection ignored at EGTPC | |
| Echo Request/Response restart counter change | The total number of GTP-C path failures ignored at EGTPC due to an Echo Request/Echo Response restart counter change. |
| No Echo Response received | The total number of GTP-C path failures ignored at EGTPC due to an Echo Response not received. |
| Control message restart counter change | The total number of GTP-C path failures ignored at EGTPC due to a control message restart counter change. |
| Control Rsp message restart counter change | The total number of GTP-C path failures ignored at EGTPC due to a control Response message restart counter change. |
| Control Rsp message received from wrong peer | The total number of GTP-C path failures ignored at EGTPC due to a control Response message received from the wrong peer. |

show egtp-service all

Table 255: show egtp service all Command Output Descriptions

| Field | Description |
|-----------------|---|
| Service name | The name of the service configured in the named context. |
| Service-ID | A system generated ID number applied to the service. |
| Context | The name of the context where the service is configured. |
| Interface Type | <p>The type of LTE interface this service is supporting.</p> <p>The following fields are in the output of the show egtp-service all command to accept or reject Create Session Request (CSR) on GTP based S2a and S2b interfaces.</p> <ul style="list-style-type: none"> • s5/s8 • s2a • s2b <p>Important This is a license-controlled feature. A valid feature license must be installed prior to configuring this feature. Contact your Cisco account representative for more information. These fields are only visible if the license is enabled.</p> |
| Status | The status of the service, i.e., "STARTED". |
| Restart Counter | Specifies the restart counter. |

| Field | Description |
|---|--|
| Max Remote Restart Counter Change | An integer from 1 to 255 that specifies the value configured with the gtpc max-restart-counter-change command in <i>eGTP-C Configuration Mode</i> . This value represents the counter change after which the node will detect a peer restart. Note that a peer restart will be detected only if the absolute difference between the New and Old restart counters is less than the value configured. For example, if the max-remote-restart-counter-change is 10 and current peer restart counter is 251, then eGTP will detect a peer restart only if the new restart counter is 252 through 255 or 0 through 5. Similarly, if the stored restart counter is 1, eGTP will detect a peer restart only if the new restart counter is 2 through 11. The default value is 255. |
| Message Validation Mode | The type of IE validation to be performed on messages received by this service. |
| GTPC Retransmission Timeout | The number of seconds between the re-sending of GTP-C echo messages. |
| GTPC Maximum Request Retransmissions | The number of control packet request message retransmissions that can be sent before an error condition is established. |
| GTPC IP QoS DSCP value | The IP QoS DSCP per-hop behavior to be marked on the outer header of signalling packets originating from the LTE component. |
| GTPC Echo | Identifies if GTP-C echo messages will be sent. |
| GTPC Echo Interval | The duration between the sending of GTP-C echo messages. |
| GTP-C Bind IPv4 Address | The IPv4 address of the interface to which this service is bound. |
| GTP-C Bind IPv6 Address | The IPv6 address of the interface to which this service is bound. |
| GTPC Peer Salvation | Indicates if peer salvation is enabled or disabled. |
| GTPC path failure detection policy | |
| Echo Timeout | Indicates if the Echo Timeout failure detection policy is enabled/disabled. |
| Echo Req/Rsp Restart counter change | Indicates if the Echo Req/Rsp Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Echo Request/Echo Response messages changes. |
| Control Mesg Restart counter change | Indicates if the Control Mesg Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Control Request/Control Response messages changes. |

| Field | Description |
|---|---|
| Collision handling DBcmd when MBreq pending | The collision handling setting for a Delete Bearer command (DBcmd) message when the Modify Bearer Request (MBreq) message for the default bearer is pending at the P-GW. Possible settings are: <ul style="list-style-type: none"> • Queue DBcmd: Queue the DBcmd message when the MBreq message is pending. • Drop DBcmd: Drop the DBcmd message when the MBreq message is pending. • Abort MBreq and handle Dbcmd: Abort the MBreq message and handle the DBcmd message. |
| GTPC Private Extension Overcharging Protection | Indicates if gtpc private-extension overcharge-protection is enabled in the egtp-service. If it is enabled, then EGTPC will encode/decode Overcharge-protection related data in/from private extension instead of Indication IE. If this option is disabled, then by default the EGTPC layer will encode/decode Overcharge-protection related data in the Indication IE. |
| GTPC Node Feature | Displays the node features enabled in this egtpc service. |

show egtpc sessions

Table 256: show egtpc sessions Command Output Descriptions

| Field | Description |
|-------|--|
| vvvv | <p>From left to right, the first value indicates the Interface Type.</p> <ul style="list-style-type: none"> - M: MME Egress - P: PGW Ingress - S: SGW Ingress vs: SGW Egress - G: SGSN Egress <p>The second value indicates the PDN Type.</p> <ul style="list-style-type: none"> - N: Non-Data Forwarding - F: Data Forwarding <p>The third value indicates the UEID Type.</p> <ul style="list-style-type: none"> - M: MEI (Mobile Equipment ID) - I: IMSI (International Mobile Subscriber Identity) <p>The fourth value is a string of characters that indicate the Bearer States.</p> <ul style="list-style-type: none"> - A: Active - C: Create Session Pending - D: Delete Session Pending - d: Delete Bearer Pending - M: Modify Bearer Pending - R: Release Access Bearer Pending - L: Downlink Data Notification Pending - u: Update User Plane Pending - c: Create Bearer Pending - U: Update Bearer Pending - E: Delete Bearer Command Pending - B: Bearer Resource Command Pending |

| Field | Description |
|--|--|
| vvvv (cont.) | <ul style="list-style-type: none"> - m: Modify Bearer Command Pending - I: Create Indirect Data Forwarding Pending - i: Delete Indirect Forwarding Pending - t: Context Acknowledge Pending - T: Context Request Pending - F: Identification Request Pending - W: Forward Relocation Pending - X: Forward Access Context Notification Pending - w: Forward Relocation Complete Pending - r: Release Cancel pending - S: Suspend Pending - Y: Resume Pending - P: PS to CS Response Pending - p: PS to CS Complete Pending - Q: PS to CS Cancel Pending - .: Inactive |
| SVC ID | Displays the Service ID. |
| IMSI/MEI | Displays the IMSI or MEI number. |
| Def EBI | Displays the default EPS Bearer Identity |
| EBIs | EBI Bearer States (see fourth value indicators described above). |
| Control TEIDs | Lists the Tunnel Endpoint Identifiers (TEIDs) |
| Local | Local TEID. |
| Remote | Remote TEID. |
| CallID | Displays the Call Identifier. |
| Peer Address | Displays the IP address of the eGTP-C peer. |
| Total sessions matching specified criteria | Displays the total number of eGTP-C sessions matching the specified criteria. |

show egtpc statistics

Table 257: show egtpc statistics Command Output Descriptions

| Field | Description |
|-----------------------------------|---|
| Tunnel Management Messages | |
| Create Session Request | |
| Total TX | The total number of tunnel - create session request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - create session request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted create session request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted create session request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted create session request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted create session request messages received by this system, the specified service, or the specified interface. |
| Create Session Response | |
| Total TX | The total number of tunnel - create session response messages sent by this system, a specified service, or a specified interface. |
| Total RX | The total number of tunnel - create session response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted create session response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create session response (accept or denied) messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|--|
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted create session request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create session response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted create session response messages sent by this system, the specified service, or the specified interface. |
| Modify Bearer Request | |
| Total TX | The total number of tunnel - modify bearer request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - modify bearer request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted modify bearer request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted modify bearer request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted modify bearer request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted modify bearer request messages received by this system, the specified service, or the specified interface. |
| Discarded | The total number of tunnel - retransmitted modify bearer request messages discarded by the system, the specified service, or the specified interface. |
| No Rsp RX | The total number of tunnel - retransmitted modify bearer request messages sent but where no response was received by the system, the specified service, or the specified interface. |
| Modify Bearer Response | |
| Total TX | The total number of tunnel - modify bearer response messages sent by this system, a specified service, or a specified interface. |

| Field | Description |
|----------------------------------|--|
| Total RX | The total number of tunnel - modify bearer response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted modify bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted modify bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted modify bearer request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted modify bearer response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted modify bearer response messages sent by this system, the specified service, or the specified interface. |
| Discarded | The total number of tunnel - retransmitted modify bearer response messages discarded by the system, the specified service, or the specified interface. |
| Delete Session Request | |
| Total TX | The total number of tunnel - delete session request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete session request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted delete session request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted delete session request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete session request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted delete session request messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--|--|
| Delete Session Response | |
| Total TX Accepted Denied | The total number of tunnel - delete session response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete session response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Total RX Accepted Denied | The total number of tunnel - delete session request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete session response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Downlink Data Notification Request | |
| Total TX | The total number of tunnel - downlink data notification request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - downlink data notification request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted downlink data notification request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted downlink data notification request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted downlink data notification request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted downlink data notification request messages received by this system, the specified service, or the specified interface. |
| Downlink Data Notification Response | |
| Total TX | The total number of tunnel - downlink data notification response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - downlink data notification response messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted downlink data notification response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted downlink data notification response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted downlink data notification response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted downlink data notification response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted downlink data notification response messages sent by the system, the specified service, or the specified interface. |
| Downlink Data Failure Indication | |
| Initial TX | The total number of tunnel - initially transmitted downlink data failure indication messages sent by this system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted downlink data failure indication messages received by this system, the specified service, or the specified interface. |
| Release Access Bearers Request | |
| Total TX | The total number of tunnel - release access bearers request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - release access bearers request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted release access bearers request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted release access bearers request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted release access bearers request messages sent by this system, the specified service, or the specified interface. |

| Field | Description |
|---------------------------------------|---|
| Retrans RX | The total number of tunnel - retransmitted release access bearers request messages received by this system, the specified service, or the specified interface. |
| Release Access Bearer Response | |
| Total TX | The total number of tunnel - release access bearer response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - release access bearer response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted release access bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted release access bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted release access bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted release access bearer response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted release access bearer response messages sent by the system, the specified service, or the specified interface. |
| Create Bearer Request | |
| Total TX | The total number of tunnel - create bearer request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - create bearer request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted create bearer request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted create bearer request messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Retrans TX | The total number of tunnel - retransmitted create bearer request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted create bearer request messages received by this system, the specified service, or the specified interface. |
| Create Bearer Response | |
| Total TX | The total number of tunnel - create bearer response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - create bearer response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted create bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted create bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create bearer response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted create bearer response messages sent by the system, the specified service, or the specified interface. |
| Update Bearer Request | |
| Total TX | The total number of tunnel - update bearer request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - update bearer request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted update bearer request messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Initial RX | The total number of tunnel - initially transmitted update bearer request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted update bearer request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted update bearer request messages received by this system, the specified service, or the specified interface. |
| Update Bearer Response | |
| Total TX | The total number of tunnel - update bearer response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - update bearer response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted update bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted update bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted update bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted update bearer response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Delete Bearer Request | |
| Total TX | The total number of tunnel - delete bearer request messages sent by the system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete bearer request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted delete bearer request messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|---|
| Initial RX | The total number of tunnel - initially transmitted delete bearer request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete bearer request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted delete bearer request messages received by this system, the specified service, or the specified interface. |
| Delete Bearer Response | |
| Total TX Accepted Denied | The total number of tunnel - delete bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Total RX Accepted Denied | The total number of tunnel - initially transmitted update bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete bearer response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Modify Bearer Command | |
| Total TX | The total number of tunnel - modify bearer command messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - modify bearer command messages received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted modify bearer command messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted modify bearer command messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted modify bearer command messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted modify bearer command messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Modify Bearer Failure Indication | |
| Total TX | The total number of tunnel - modify bearer failure indication messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - modify bearer failure indication messages received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted modify bearer failure indication messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted modify bearer failure indication messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted modify bearer failure indication messages sent by the system, the specified service, or the specified interface. |
| Bearer Resource Command | |
| Total TX | The total number of tunnel - bearer resource command messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - bearer resource command messages received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted bearer resource command messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted bearer resource command messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted bearer resource command messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted bearer resource command messages received by this system, the specified service, or the specified interface. |
| Discarded | The total number of tunnel - retransmitted bearer resource command messages discarded by the system, the specified service, or the specified interface. |
| No Rsp RX | The total number of tunnel - retransmitted bearer resource command messages sent but where no response was received by the system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Bearer Resource Failure Indication | |
| Total TX | The total number of tunnel - bearer resource failure indication messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - bearer resource failure indication messages received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted bearer resource failure indication messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted bearer resource failure indication messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted bearer resource failure indication messages sent by the system, the specified service, or the specified interface. |
| Discarded | The total number of tunnel - retransmitted bearer resource failure indication messages discarded by the system, the specified service, or the specified interface. |
| Delete Bearer Command | |
| Total TX | The total number of tunnel - delete bearer command messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete bearer command messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted delete bearer command messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted delete bearer command messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete bearer command messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted delete bearer command messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Discarded | The total number of tunnel - retransmitted delete bearer command messages discarded by the system, the specified service, or the specified interface. |
| Delete Bearer Failure Indication | |
| Total TX | The total number of tunnel - delete bearer failure indication messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete bearer failure indication messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted delete bearer failure indication messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted delete bearer failure indication messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete bearer failure indication messages sent by the system, the specified service, or the specified interface. |
| Create Ind Data Forwarding Tunnel Request | |
| Total TX | The total number of tunnel - create indirect data forwarding tunnel requests sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - create indirect data forwarding tunnel requests received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted create indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted create indirect data forwarding tunnel requests received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted create indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted create indirect data forwarding tunnel requests received by this system, the specified service, or the specified interface. |
| Create Ind Data Forwarding Tunnel Response | |

| Field | Description |
|--|--|
| Total TX | The total number of tunnel - create indirect data forwarding tunnel response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - create indirect data forwarding tunnel response messages received by this system, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted create indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of create indirect data forwarding tunnel response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted create indirect data forwarding tunnel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of create indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted create indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. |
| Delete Ind Data Forwarding Tunnel Request | |
| Total TX | The total number of tunnel - delete indirect data forwarding tunnel requests sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete indirect data forwarding tunnel requests received by this system, or the specified interface. |
| Initial TX | The total number of tunnel - initially transmitted delete indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of tunnel - initially transmitted delete indirect data forwarding tunnel requests received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of tunnel - retransmitted delete indirect data forwarding tunnel requests received by this system, the specified service, or the specified interface. |

| Field | Description |
|---|--|
| Delete Ind Data Forwarding Tunnel Response | |
| Total TX | The total number of tunnel - delete indirect data forwarding tunnel response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of tunnel - delete indirect data forwarding tunnel response messages received by this system, or the specified interface. |
| Initial TX Accepted Denied | The total number of tunnel - initially transmitted delete indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of tunnel - initially transmitted delete indirect data forwarding tunnel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of tunnel - retransmitted delete indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. |
| Stop Paging Indication | |
| Total TX | The total number of stop paging indication messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of stop paging indication messages received by this system, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted stop paging indication messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of stop paging indication (accept or denied) messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------------|--|
| Initial RX Accepted Denied | The total number of initially transmitted stop paging indication messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted stop paging indication messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of retransmitted stop paging indication messages sent by the system, the specified service, or the specified interface. |
| Change Notification Request | |
| Total TX | The total number of change notification request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of change notification request messages received by this system, or the specified interface. |
| Initial TX | The total number of initially transmitted change notification request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of initially transmitted change notification request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted change notification request messages sent by the system, the specified service, or the specified interface. |
| Change Notification Response | |
| Total TX | The total number of change notification response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of change notification response messages received by this system, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted change notification response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of change notification response (accept or denied) messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Initial RX Accepted Denied | The total number of initially transmitted change notification response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of change notification response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted change notification response messages sent by the system, the specified service, or the specified interface. |
| PGW Restart Notification Request | |
| Total TX | The total number of P-GW restart notification request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of P-GW restart notification request messages received by this system, or the specified interface. |
| Initial TX | The total number of initially transmitted P-GW restart notification request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of initially transmitted P-GW restart notification request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted P-GW restart notification request messages sent by the system, the specified service, or the specified interface. |
| Discarded | The total number of retransmitted P-GW restart notification request messages discarded by the system, the specified service, or the specified interface. |
| No Rsp RX | The total number of P-GW restart notification request messages sent but where no response was received by the system, the specified service, or the specified interface. |
| PGW Restart Notification Ack | |
| Total TX | The total number of P-GW restart notification acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of P-GW restart notification acknowledge messages received by this system, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Initial TX Accepted Denied | The total number of initially transmitted P-GW restart notification acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of P-GW restart notification acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted P-GW restart notification acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of P-GW restart notification acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted P-GW restart notification acknowledge messages sent by the system, the specified service, or the specified interface. |
| Discarded | The total number of retransmitted P-GW restart notification request messages discarded by the system, the specified service, or the specified interface. |
| Path Management Messages | |
| Echo Request | |
| Total TX | The total number of path - echo request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of path - echo request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of path - initially transmitted echo request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of path - initially transmitted echo request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of path - retransmitted echo request messages sent by the system, the specified service, or the specified interface. |
| Echo Response | |
| Total TX | The total number of path - echo response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of path - echo response messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------------|---|
| Version Not Supported | |
| Total TX | The total number of path - version not supported messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of path - version not supported messages received by this system, the specified service, or the specified interface. |
| Mobility Management Messages | |
| Context Request | |
| Total TX | The total number of mobility - context request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - context request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of mobility - initially transmitted context request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of mobility - initially transmitted context request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted mobility context request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted context response messages received by the system, the specified service, or the specified interface. |
| Context Response | |
| Total TX | The total number of mobility - context response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - context response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted context response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context response (accept or denied) messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Initial RX Accepted Denied | The total number of mobility - initially transmitted context response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted identification request messages received by the system, the specified service, or the specified interface. |
| Context Acknowledge | |
| Total TX | The total number of mobility - context acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - context acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted context acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of mobility - initially transmitted context acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted context acknowledge messages sent by the system, the specified service, or the specified interface. |
| Identification Request | |
| Total TX | The total number of mobility - identification request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - identification request messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|-----------------------------------|--|
| Initial TX | The total number of mobility - initially transmitted identification request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of mobility - initially transmitted identification request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted identification request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted identification request messages received by the system, the specified service, or the specified interface. |
| Identification Response | |
| Total TX Accepted Denied | The total number of mobility - identification response messages sent by this system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - identification response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Total RX Accepted Denied | The total number of mobility - identification response messages received by this system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - identification response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted identification response messages sent by the system, the specified service, or the specified interface. |
| Forward Relocation Request | |
| Total TX | The total number of mobility - forward relocation request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - forward relocation request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of mobility - initially transmitted forward relocation request messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|--|---|
| Initial RX | The total number of mobility - initially transmitted forward relocation request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward relocation request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted forward relocation request messages received by the system, the specified service, or the specified interface. |
| Forward Relocation Response | |
| Total TX | The total number of mobility - forward relocation response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - forward relocation response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted forward relocation response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of mobility - initially transmitted forward relocation response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation response (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward relocation response messages sent by the system, the specified service, or the specified interface. |
| Forward Access Context Notification | |
| Total TX | The total number of mobility - forward access context notification messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - forward access context notification messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|---|---|
| Initial TX | The total number of mobility - initially transmitted forward access context notification messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of mobility - initially transmitted forward access context notification messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward access context notification messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted forward access context notification messages received by the system, the specified service, or the specified interface. |
| Forward Access Context Acknowledge | |
| Total TX | The total number of mobility - forward access context acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - forward access context acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted forward access context acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward access context acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of mobility - initially transmitted forward access context acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward access context acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward access context acknowledge messages sent by the system, the specified service, or the specified interface. |
| Forward Relocation Complete Notification | |
| Total TX | The total number of mobility - forward relocation complete notification messages sent by this system, the specified service, or the specified interface. |

| Field | Description |
|--|---|
| Total RX | The total number of mobility - forward relocation complete notification messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of mobility - initially transmitted forward relocation complete notification messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of mobility - initially transmitted forward relocation complete notification messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward relocation complete notification messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted forward relocation complete notification messages received by the system, the specified service, or the specified interface. |
| Forward Relocation Complete Acknowledge | |
| Total TX | The total number of mobility - forward relocation complete acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - forward relocation complete acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted forward relocation complete acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation complete acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of mobility - initially transmitted forward relocation complete acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation complete acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted forward relocation complete acknowledge messages sent by the system, the specified service, or the specified interface. |
| Relocation Cancel Request | |

| Field | Description |
|-----------------------------------|---|
| Total TX | The total number of mobility - relocation cancel request messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - relocation cancel request messages received by this system, the specified service, or the specified interface. |
| Initial TX | The total number of mobility - initially transmitted relocation cancel request messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of mobility - initially transmitted relocation cancel request messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of mobility - retransmitted relocation cancel request messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of mobility - retransmitted relocation cancel request messages received by the system, the specified service, or the specified interface. |
| Relocation Cancel Response | |
| Total TX | The total number of mobility - relocation cancel response messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of mobility - relocation cancel response messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of mobility - initially transmitted relocation cancel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted relocation cancel response (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of mobility - initially transmitted relocation cancel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted relocation cancel response (accept or denied) messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------------|---|
| Retrans TX | The total number of mobility - retransmitted relocation cancel response messages sent by the system, the specified service, or the specified interface. |
| RAN Information Relay | |
| Initial TX | The total number of initially transmitted RAN Information Management (RIM) messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of initially transmitted RAN Information Management (RIM) messages received by the system, the specified service, or the specified interface. |
| Configuration Transfer Tunnel | |
| Initial TX | The total number of initially transmitted configuration transfer tunnel messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of initially transmitted configuration transfer tunnel messages received by the system, the specified service, or the specified interface. |
| Detach Notification | |
| Total TX | The total number of detach notification messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of detach notification messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted detach notification messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted detach notification messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted detach notification messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Retrans RX | The total number of retransmitted detach notification messages received by the system, the specified service, or the specified interface. |
| Detach Acknowledge | |
| Total TX | The total number of detach acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of detach acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted detach acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted detach acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Alert MME Notification | |
| Total TX | The total number of alert MME notification messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of alert MME notification messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted alert MME notification messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME notification (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted alert MME notification messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME notification (accept or denied) messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|-----------------------------------|---|
| Retrans TX | The total number of retransmitted alert MME notification messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of retransmitted alert MME notification messages received by the system, the specified service, or the specified interface. |
| Alert MME Acknowledge | |
| Total TX | The total number of alert MME acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of alert MME acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted alert MME acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted alert MME acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of initially retransmitted alert MME acknowledge messages sent by the system, the specified service, or the specified interface. |
| UE Activation Notification | |
| Total TX | The total number of UE activation messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of UE activation messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted UE activation messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activation (accept or denied) messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|---|
| Initial RX Accepted Denied | The total number of initially transmitted UE activation messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activation (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted UE activation messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of retransmitted UE activation messages received by the system, the specified service, or the specified interface. |
| UE Activity Acknowledge | |
| Total TX | The total number of UE activity acknowledge messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of UE activity acknowledge messages received by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted UE activity acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activity acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted UE activity acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activity acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of initially retransmitted UE activity acknowledge messages sent by the system, the specified service, or the specified interface. |
| CS Paging Indication | |
| Total TX | The total number of CS (Circuit Switched) paging indication messages sent by this system, the specified service, or the specified interface. |
| Total RX | The total number of CS paging indication messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--|---|
| Initial TX Accepted Denied | The total number of initially transmitted CS paging indication messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CS paging indication (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of initially transmitted CS paging indication messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CS paging indication (accept or denied) messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted CS paging indication messages sent by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of retransmitted CS paging indication messages received by the system, the specified service, or the specified interface. |
| SRVCC Messages (Single Radio Voice Call Continuity) | |
| PS to CS Request | |
| Total TX | The total number of PS (Packet Switched) to CS (Circuit Switched) request messages sent by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted PS to CS request messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of PS to CS request (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted PS to CS request messages sent by the system, the specified service, or the specified interface. |
| Discarded | Not used. |
| No Rsp Rcvd | The total number of times the MME did not receive an expected response from an MSC for a PS to CS request. Note: For a given subscriber, retransmitted requests to the same MSC do not increment this counter. For retransmitted requests to different MSCs, if no response is received from either MSC, this counter will increment twice. |
| PS to CS Response | |

| Field | Description |
|---------------------------------------|---|
| Total RX | The total number of PS (Packet Switched) to CS (Circuit Switched) response messages received by this system, the specified service, or the specified interface. |
| Initial RX Denied | The total number of initial PS to CS response messages received by the system, the specified service, or the specified interface. |
| Accepted | The total number of PS to CS response messages received and accepted by the system, the specified service, or the specified interface. |
| Denied | The total number of PS to CS response messages received and denied by the system, the specified service, or the specified interface. Note: Denied will be incremented when the PS to CS response is received with cause code of EGTP_CAUSE_REQ_ACCEPTED. |
| Discarded | The total number of PS to CS response messages received and discarded by the system, the specified service, or the specified interface. The system/interface will discard the message when a decoding error occurs (for example due to wrong header length, wrong IE format, etc.). |
| PS to CS Complete Notification | |
| Total RX | The total number of PS (Packet Switched) to CS (Circuit Switched) complete notification messages received by this system, the specified service, or the specified interface. |
| Initial RX | The total number of initially transmitted PS to CS complete notification messages received by the system, the specified service, or the specified interface. |
| Retrans RX | The total number of retransmitted PS to CS complete notification messages received by the system, the specified service, or the specified interface. |
| Discarded | The total number of PS to CS complete notification messages received and discarded by the system, the specified service, or the specified interface. The system/interface will discard the message when a decoding error occurs (for example due to wrong header length, wrong IE format, etc.). |
| PS to CS Complete Acknowledge | |
| Total TX | The total number of PS (Packet Switched) to CS (Circuit Switched) complete acknowledge messages sent by this system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------------|---|
| Initial TX | The total number of initially transmitted PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface. |
| Accepted | The total number of PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface, with a cause code of ACCEPTED. |
| Denied | The total number of PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface, with a cause code of DENIED. |
| Retrans TX | The total number of retransmitted PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface. |
| Discarded | Not used. |
| PS to CS Cancel Notification | |
| Total TX | The total number of PS (Packet Switched) to CS (Circuit Switched) cancel notification messages sent by this system, the specified service, or the specified interface. |
| Initial TX | The total number of initially transmitted PS to CS cancel notification messages sent by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted PS to CS cancel notification messages sent by the system, the specified service, or the specified interface. |
| PS to CS Cancel Acknowledge | |
| Total TX | The total number of PS (Packet Switched) to CS (Circuit Switched) cancel acknowledge messages sent by this system, the specified service, or the specified interface. |
| Initial TX Accepted Denied | The total number of initially transmitted PS to CS cancel acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of PS to CS cancel acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface. |
| Trace Management Messages | |
| Trace Session Activation | |
| Initial TX | The total number of trace - initially transmitted session activation messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|------------------------------------|--|
| Initial RX | The total number of trace - initially transmitted session activation messages received by the system, the specified service, or the specified interface. |
| Trace Session Deactivation | |
| Initial TX | The total number of trace - initially transmitted session deactivation messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of trace - initially transmitted session deactivation messages received by the system, the specified service, or the specified interface. |
| CS Fallback Messages (CSFB) | |
| Suspend Notification | |
| Initial TX | The total number of CSFB (Circuit Switched Fallback) - initially transmitted suspend notification messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of CSFB - initially transmitted suspend notification messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of CSFB (Circuit Switched Fallback) - retransmitted suspend notification messages that had to be retransmitted by the system, the specified service, or the specified interface. |
| Discarded | The total number of CSFB (Circuit Switched Fallback) - suspend notification messages that were discarded. |
| Retrans RX | The total number of CSFB (Circuit Switched Fallback) - suspend notification messages received by this system, the specified service, or the specified interface. |
| Suspend Acknowledge | |
| Initial TX Accepted Denied | The total number of CSFB - initially transmitted suspend acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|--|
| Initial RX Accepted Denied | The total number of CSFB - initially transmitted suspend acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages received by the system, the specified service, or the specified interface. |
| Discarded | The total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages that were discarded. |
| Resume Notification | |
| Initial TX | The total number of CSFB - initially transmitted resume notification messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of CSFB - initially transmitted resume notification messages received by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of retransmitted CSFB - resume notification messages that had to be retransmitted by the system, the specified service, or the specified interface. |
| Discarded | The total number of CSFB (Circuit Switched Fallback) - resume notification messages that were discarded. |
| No Rsp RX | The total number of CSFB (Circuit Switched Fallback) - resume notification messages for which no response was received. |
| Retrans RX | The total number of retransmitted CSFB (Circuit Switched Fallback) - resume notification messages received by this system, the specified service, or the specified interface. |
| Resume Acknowledge | |
| Initial TX Accepted Denied | The total number of CSFB - initially transmitted resume acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of CSFB - initially transmitted resume acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|----------------------------------|--|
| Discarded | The total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages that were discarded. |
| Total Signalling Packets | |
| TX | The total number of signalling packets sent by the system, the specified service, or the specified interface. |
| RX | The total number of signalling packets received by the system, the specified service, or the specified interface. |
| Total Signalling Bytes | |
| TX | The total number of signalling bytes sent by the system, the specified service, or the specified interface. |
| RX | The total number of signalling bytes received by the system, the specified service, or the specified interface. |
| Control Request Messages | |
| Initial TX | The total number of control request messages sent by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of control request retransmitted messages sent by the system, the specified service, or the specified interface. |
| Initial RX | The total number of control request messages received by the system, the specified service, or the specified interface. |
| Discarded | The total number of control request messages that were discarded. |
| No Response RX | The total number of control request messages that are not received. |
| Control Response Messages | |
| Initial TX Accepted Denied | The total number of control response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of control response messages sent by the system, the specified service, or the specified interface. |
| Retrans TX | The total number of control response retransmitted messages sent by the system, the specified service, or the specified interface. |
| Initial RX Accepted Denied | The total number of control response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the of control response messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|--|--|
| Discarded | The total number of control response messages that were discarded. |
| Retrans RX | The total number of control response messages received by this system, the specified service, or the specified interface. |
| Load Control Information TX | |
| No of times Load Control info TX | The total number of times that Load Control information has been transmitted to a peer or peers for any reason. |
| Accepted | The total number of times that load control information has been sent to the peer node. This statistic is also subdivided into: <ul style="list-style-type: none"> • Homer: The total number of times that load control information has been sent to the home PLMN. • Non Homer: The total number of times that load control information has been sent to the visited PLMN. |
| Ignored | The total number of times that this node ignored load control information and the load control information was not sent to the peer node. This statistic is also subdivided into: <ul style="list-style-type: none"> • Homer: The total number of times that load control info was Ignored and not sent to the home PLMN. • Non Homer: The total number of times that load control info was ignored and not sent to visited PLMN. • No config: The total number of times that the node ignored load control information because there is no load control association configured. • Wrong Sequence Number: The total number of times the node ignored load control information due to an incorrect sequence number. |
| Current Load Factor | The currently configured load control factor, as a percentage of 100. |
| Sequence Number | Indicates the current unique sequence number that will be sent to the peer along with the load control information element. |
| Overload Control Information TX | |
| No of times Overload Control info TX | The total number of times Overload Control information has been transmitted to a peer or peers. |

| Field | Description |
|--|---|
| Accepted | <p>The total number of times that overload control information has been sent to the peer node. This statistic is also subdivided into:</p> <ul style="list-style-type: none"> • Homer: The total number of times that overload control information has been sent to the home PLMN. • Non Homer: The total number of times that overload control information has been sent to the visited PLMN. |
| Ignored | <p>The total number of times that this node ignored overload control information and overload control information was not sent to the peer node. This statistic is also subdivided into:</p> <ul style="list-style-type: none"> • Total number of times that overload control info was Ignored and not sent to home PLMN. • Non Homer: Total number of times that overload control info was Ignored and not sent to visited PLMN. • No config: Total number of times that the node ignored overload control information because there is no load control configuration association on this node. • Wrong Sequence Number: Total number of times this node ignored overload control information due to an incorrect sequence number. |
| Current Overload Factor | The currently configured overload factor, as a percentage of 100. |
| Current Overload Reduction Metric | The overload reduction metric configured on the node. This metric is sent to the peer node for load balancing purposes. |
| Sequence Number | Indicates the current unique sequence number that will be sent to the peer along with the overload control information element. |
| Validity Period(Secs) | The currently configured validity period. This value indicates how long the overload control information is considered valid. |
| No of times Overload Threshold Reached | The total number of times the overload threshold has been reached on this node. This is based on how many times the node has reached the overload condition that is configured with self-protection-limit command. |

| Field | Description |
|--|---|
| Number of Messages Throttled | <p>The total number of transmitted messages throttled due to the node signaling that it has reached its overload control limit and has been instructed by the peer node to reduce its signaling. This statistic is further subdivided into:</p> <ul style="list-style-type: none"> • Message group 1: Total number of messages throttled in group1 as configured via the message-prioritization command. • Message group 2: Total number of messages throttled in group2 as configured via the message-prioritization command. • Self Protection: The total number of messages throttled due to the node being in self-protection mode and cannot handle any new messages. |
| Number of Messages Accepted in Self Protection | <p>The total number of messages accepted in self-protection mode for any reason. This statistic is further subdivided into:</p> <ul style="list-style-type: none"> • APN level: The total number of messages accepted in self-protection mode for the configured APN level(s). • EARP level: The total number of messages accepted in self-protection mode for the configured EARP level(s). |
| Load Control Information RX | |
| No of times Load Control info RX | The total number of times that Load Control information has been received from a peer for any reason. |
| Accepted | <p>The total number of times that load control information has been received from the peer node. This statistic is also subdivided into:</p> <ul style="list-style-type: none"> • Homer: The total number of times that load control information has been received from the home PLMN. • Non Homer: The total number of times that load control information has been received from the visited PLMN. |
| Ignored | <p>The total number of times that this node ignored load control information and the load control information was not received from the peer node. This statistic is also subdivided into:</p> <ul style="list-style-type: none"> • Homer: The total number of times that load control info was Ignored and not received from the home PLMN. • Non Homer: The total number of times that load control info was ignored and not received from the visited PLMN. • No config: The total number of times that the node ignored load control information received because there is no load control association configured. • Wrong Sequence Number: The total number of times the node ignored load control information received due to an incorrect sequence number. |

| Field | Description |
|--|---|
| Current Load Factor | The currently configured load control factor, as a percentage of 100. |
| Sequence Number | Indicates the current unique sequence number that will be received from the peer along with the load control information element. |
| Overload Control Information RX | |
| No of times Overload Control info TX | The total number of times Overload Control information has been received from a peer for any reason. |
| Accepted | The total number of times that overload control information has been received from a peer node. This statistic is also subdivided into: <ul style="list-style-type: none"> • Homer: The total number of times that overload control information has been received from the home PLMN. • Non Homer: The total number of times that overload control information has been received from the visited PLMN. |
| Ignored | The total number of times that this node ignored overload control information and overload control information was not received from the peer node. This statistic is also subdivided into: <ul style="list-style-type: none"> • Total number of times that overload control info was ignored and not received from the home PLMN. • Non Homer: Total number of times that overload control info was ignored and not received by the visited PLMN. • No config: Total number of times that the node ignored received overload control information because there was no load control configuration association on the node. • Wrong Sequence Number: Total number of times this node ignored overload control information due to an incorrect sequence number. |
| Current Overload Factor | The currently configured overload factor, as a percentage of 100. |
| Current Overload Reduction Metric | The overload reduction metric configured on the node. This metric is sent to the peer node for load balancing purposes. |
| Sequence Number | Indicates the current unique sequence number that will be sent to the peer along with the overload control information element. |
| Validity Period(Secs) | The currently configured validity period. This value indicates how long the overload control information is considered valid. |
| No of times Overload Threshold Reached | The total number of times the overload threshold has been reached on this node. This is based on how many times the node has reached the overload condition that is configured with self-protection-limit command. |

| Field | Description |
|--|--|
| Number of Messages Throttled | <p>The total number of received messages throttled due to the node signaling that it has reached its overload control limit and has been instructed by the peer node to reduce its signaling. This statistic is further subdivided into:</p> <ul style="list-style-type: none"> • Message group 1: Total number of messages throttled in group1 as configured via the message-prioritization command. • Message group 2: Total number of messages throttled in group2 as configured via the message-prioritization command. • Self Protection: The total number of messages throttled due to the node being in self-protection mode and cannot handle any new messages. |
| Number of Messages Accepted in Self Protection | <p>The total number of messages accepted in self-protection mode for any reason. This statistic is further subdivided into:</p> <ul style="list-style-type: none"> • APN level: The total number of messages accepted in self-protection mode for the configured APN level(s). • EARP level: The total number of messages accepted in self-protection mode for the configured EARP level(s). |

show egtpc statistics verbose

3GPP Release 9, 29.274

The **show egtpc statistics verbose** command includes all of the data provided in the **show egtpc statistics** command and appends detailed rejection statistics for the following call request/response/notification denials [3GPP Release 9, 29.274]:

- Reject Statistics
- Modify Bearer Request Denied
- Delete Bearer Request Denied
- Delete Session Request Denied
- Downlink Data Notification Denied
- Release Access Bearers Denied
- Create Bearer Denied
- Update Bearer Denied
- Delete Bearer Command Denied
- Modify Bearer Command Denied
- Bearer Resource Command Denied
- Create Indirect Data Forwarding Tunnel Request Denied
- Delete Indirect Data Forwarding Tunnel Request Denied
- Change Notification Request Denied

- Context Request Denied
- Context Response Denied
- Identification Request Denied
- Forward Relocation Request Denied
- Forward Access Context Notification Denied
- Forward Relocation Complete Notification Denied
- Relocation Cancel Request Denied
- Suspend Notification Denied
- Resume Notification Denied

The table below lists and describes the transmit and receive parameters output for all of the call denials listed above.

Table 258: show egtpc statistics verbose Command Output Descriptions -- 3GPP Release 9, 29.274

| Field | Description |
|---------------------------|--|
| Context not existent TX | The total number of Context Does Not Exist messages sent by this system, the specified service, or the specified interface. |
| Context not existent RX | The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface. |
| Invalid message format TX | The total number of Invalid Message Format messages sent by the system, the specified service, or the specified interface. |
| Invalid message format RX | The total number of Invalid Message Format messages received by the system, the specified service, or the specified interface. |
| Version not supported TX | The total number of Version Not Supported messages sent by the system, the specified service, or the specified interface. |
| Version not supported RX | The total number of Version Not Supported messages received by this system, the specified service, or the specified interface. |
| Invalid length TX | The total number of Invalid Length messages sent by the system, the specified service, or the specified interface. |
| Invalid length RX | The total number of Invalid Length messages received by this system, the specified service, or the specified interface. |
| Mandatory IE incorrect TX | The total number of Mandatory IE (Information Element) Incorrect messages sent by the system, the specified service, or the specified interface. |
| Mandatory IE incorrect RX | The total number of Mandatory IE Incorrect messages received by this system, the specified service, or the specified interface. |
| Mandatory IE missing TX | The total number of Mandatory IE Missing messages sent by the system, the specified service, or the specified interface. |
| Mandatory IE missing RX | The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|---|
| System failure TX | The total number of System Failure messages sent by the system, the specified service, or the specified interface. |
| System failure RX | The total number of System Failure messages received by this system, the specified service, or the specified interface. |
| No resources available TX | The total number of No Resources Available messages sent by the system, the specified service, or the specified interface. |
| No resources available RX | The total number of No Resources Available messages received by the system, the specified service, or the specified interface. |
| Semantic error in TFT TX | The total number of Semantic Error in TFT (Traffic Flow Template) messages sent by the system, the specified service, or the specified interface. |
| Semantic error in TFT RX | The total number of Semantic Error in TFT messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TFT TX | The total number of Syntactic Error in TFT messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in TFT RX | The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface. |
| Semantic error in Pkt Fltr TX | The total number of Semantic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface. |
| Semantic error in Pkt Fltr RX | The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Syntactic error in Pkt Fltr TX | The total number of Syntactic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in Pkt Fltr RX | The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Missing or unknown APN TX | The total number of Missing or Unknown APN (Access Point number) messages sent by the system, the specified service, or the specified interface. |
| Missing or unknown APN RX | The total number of Missing or Unknown APN messages received by this system, the specified service, or the specified interface. |
| GRE key not found TX | The total number of GRE (Generic Routing Encapsulation) Key Not Found messages sent by the system, the specified service, or the specified interface. |
| GRE key not found RX | The total number of GRE Key Not Found messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------|--|
| Reallocation failure TX | The total number of Reallocation Failure messages sent by the system, the specified service, or the specified interface. |
| Reallocation failure RX | The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface. |
| Denied in RAT TX | The total number of Denied in RAT (Radio Access Technology) messages sent by the system, the specified service, or the specified interface. |
| Denied in RAT RX | The total number of Denied in RAT messages received by this system, the specified service, or the specified interface. |
| Pref. PDN type unsupported TX | The total number of Preferred PDN Type Unsupported messages sent by the system, the specified service, or the specified interface. |
| Pref. PDN type unsupported RX | The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface. |
| All dynamic addr occupied TX | The total number of All Dynamic Addresses Occupied messages sent by the system, the specified service, or the specified interface. |
| All dynamic addr occupied RX | The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface. |
| UE ctx w/o TFT activated TX | The total number of UE Context without TFT (Traffic Flow Template) Already Activated messages sent by the system, the specified service, or the specified interface. |
| UE ctx w/o TFT activated RX | The total number of UE Context without TFT Already Activated messages received by this system, the specified service, or the specified interface. |
| Prot type not supported TX | The total number of Protocol Type Not Supported messages sent by the system, the specified service, or the specified interface. |
| Prot type not supported RX | The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface. |
| UE not responding TX | The total number of UE (User Equipment) Not Responding messages sent by the system, the specified service, or the specified interface. |
| UE not responding RX | The total number of UE Not Responding messages received by this system, the specified service, or the specified interface. |
| UE refuses TX | The total number of UE Refuses messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|---------------------------|---|
| UE refuses RX | The total number of UE Refuses messages received by this system, the specified service, or the specified interface. |
| Service denied TX | The total number of Service Denied messages sent by the system, the specified service, or the specified interface. |
| Service denied RX | The total number of Service Denied messages received by this system, the specified service, or the specified interface. |
| Unable to page UE TX | The total number of Unable to Page UE (User Equipment) messages sent by the system, the specified service, or the specified interface. |
| Unable to page UE RX | The total number of Unable to Page UE messages received by this system, the specified service, or the specified interface. |
| No Memory TX | The total number of No Memory messages sent by the system, the specified service, or the specified interface. |
| No Memory RX | The total number of No Memory messages received by this system, the specified service, or the specified interface. |
| User Auth Failed TX | The total number of User Authentication Failed messages sent by the system, the specified service, or the specified interface. |
| User Auth Failed RX | The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface. |
| Apn Access Denied TX | The total number of APN (Access Point Number) Access Denied messages sent by the system, the specified service, or the specified interface. |
| Apn Access Denied RX | The total number of APN Access Denied messages received by this system, the specified service, or the specified interface. |
| Request Rejected TX | The total number of Request Rejected messages sent by the system, the specified service, or the specified interface. |
| Request Rejected RX | The total number of Request Rejected messages received by this system, the specified service, or the specified interface. |
| Semantic error in TAD TX | The total number of Semantic Error in TAD (Traffic Aggregate Description) messages sent by the system, the specified service, or the specified interface. |
| Semantic error in TAD RX | The total number of Semantic Error in TAD messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TAD TX | The total number of Syntactic Error in TAD messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in TAD RX | The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|---|
| Collision with Nw init Req TX | The total number of Collision with Network Initiated Request messages sent by the system, the specified service, or the specified interface. |
| Collision with Nw init Req RX | The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface. |
| UE page unable due to Susp TX | The total number of Unable to Page UE (User Equipment) Due to Suspension messages sent by the system, the specified service, or the specified interface. |
| UE page unable due to Susp RX | The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface. |
| Conditional IE missing TX | The total number of Conditional IE (Information Element) Missing messages sent by the system, the specified service, or the specified interface. |
| Conditional IE missing RX | The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface. |
| Apn Restr Type Incompatible TX | The total number of APN (Access Point Number) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface. |
| Apn Restr Type Incompatible RX | The total number of APN Restriction Type Incompatible with Currently Active PDN Connection messages received by this system, the specified service, or the specified interface. |
| Invalid len Piggybacked msg TX | The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages sent by the system, the specified service, or the specified interface. |
| Invalid len Piggybacked msg RX | The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface. |
| Invalid remote Peer reply TX | The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface. |
| Invalid remote Peer reply RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |
| PTMSI signature mismatch TX | The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------|---|
| PTMSI signature mismatch RX | The total number of PTMSI Signature Mismatch messages received by this system, the specified service, or the specified interface. |
| IMSI not Known TX | The total number of IMSI (International Mobile Subscriber Identity) Not Known messages sent by the system, the specified service, or the specified interface. |
| IMSI not Known RX | The total number of IMSI Not Known messages received by this system, the specified service, or the specified interface. |
| Peer not responding TX | The total number of Remote Peer Not Responding messages sent by the system, the specified service, or the specified interface. |
| Peer not responding RX | The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface. |
| Data Fwding not supported TX | The total number of Data Forwarding Not Supported messages sent by the system, the specified service, or the specified interface. |
| Data Fwding not supported RX | The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface. |
| Fallback to GTPV1 TX | The total number of Fallback to GTPv1 messages sent by the system, the specified service, or the specified interface. |
| Fallback to GTPV1 RX | The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface. |
| Invalid Peer TX | The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface. |
| Invalid Peer RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |
| Temp Rej due to HO in prog TX | The total number of Temporarily Rejected Due to Handover Procedure in Progress messages sent by the system, the specified service, or the specified interface. |
| Temp Rej due to HO in prog RX | The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface. |
| GTPC Entity Congestion TX | The number of times this peer has transmitted an overload condition indication to a peer. |
| GTPC Entity Congestion RX | The number of times this node has received an overload condition indication from a peer. |

| Field | Description |
|------------|--|
| Unknown TX | The total number of Unknown (unspecified rejection cause) messages sent by the system, the specified service, or the specified interface. |
| Unknown RX | The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface. |

SRVCC Messages

The **show egtpc statistics verbose** command includes all of the data provided in the **show egtpc statistics** command, and appends the detailed rejection statistics as described in the table above as well the following statistic is ties for SRVCC (Single Radio Voice Call Continuity) requests and notifications:

- PS to CS Request Denied [RX only]
- PS to CS Complete Notification Denied [TX only]
- PS to CS Cancel Notification Denied [RX only]

Table 259: show egtpc statistics verbose Command Output Descriptions -- SRVCC Messages

| Field | Description |
|--|---|
| PS to CS Request Denied [RX only] | |
| Context not existent RX | The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface. |
| Invalid message format RX | The total number of Invalid Message Format messages received by this system, the specified service, or the specified interface. |
| Version not supported RX | The total number of Version Not Supported messages received by this system, the specified service, or the specified interface. |
| Invalid length RX | The total number of Invalid Length messages received by this system, the specified service, or the specified interface. |
| Service not supported | The total number of Service not Supported messages received by this system, the specified service, or the specified interface. |
| Mandatory IE incorrect RX | The total number of Mandatory IE Incorrect messages received by this system, the specified service, or the specified interface. |
| Mandatory IE missing RX | The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface. |
| System failure RX | The total number of System Failure messages received by this system, the specified service, or the specified interface. |
| No resources available RX | The total number of No Resources Available messages received by the system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|--|
| Semantic error in TFT RX | The total number of Semantic Error in TFT (Traffic Flow Template) messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TFT RX | The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface. |
| Semantic error in Pkt Fltr RX | The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Syntactic error in Pkt Fltr RX | The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Missing or unknown APN RX | The total number of Missing or Unknown APN (Access Point number) messages received by this system, the specified service, or the specified interface. |
| GRE key not found RX | The total number of GRE (Generic Routing Encapsulation) Key Not Found messages received by this system, the specified service, or the specified interface. |
| Reallocation failure RX | The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface. |
| Denied in RAT RX | The total number of Denied in RAT (Radio Access Technology) messages received by this system, the specified service, or the specified interface. |
| Pref. PDN type unsupported RX | The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface. |
| All dynamic addr occupied RX | The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface. |
| UE ctx w/o TFT activated RX | The total number of UE (User Equipment) Context without TFT Already Activated messages received by this system, the specified service, or the specified interface. |
| Prot type not supported RX | The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface. |
| UE not responding RX | The total number of UE (User Equipment) Not Responding messages received by this system, the specified service, or the specified interface. |
| UE refuses RX | The total number of UE Refuses messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|---|
| Service denied RX | The total number of Service Denied messages received by this system, the specified service, or the specified interface. |
| Unable to page UE RX | The total number of Unable to Page UE messages received by this system, the specified service, or the specified interface. |
| No Memory RX | The total number of No Memory messages received by this system, the specified service, or the specified interface. |
| User Auth Failed RX | The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface. |
| Apn Access Denied RX | The total number of APN (Access Point Number) Access Denied messages received by this system, the specified service, or the specified interface. |
| Request Rejected RX | The total number of Request Rejected messages received by this system, the specified service, or the specified interface. |
| Semantic error in TAD RX | The total number of Semantic Error in TAD (Traffic Aggregate Description) messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TAD RX | The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface. |
| Collision with Nw init Req RX | The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface. |
| UE page unable due to Susp RX | The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface. |
| Conditional IE missing RX | The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface. |
| Apn Restr Type Incompatible RX | The total number of APN (Access Point Name) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface. |
| Invalid len Piggybacked msg RX | The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface. |
| Invalid remote Peer reply RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--|---|
| PTMSI signature mismatch RX | The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages received by this system, the specified service, or the specified interface. |
| IMSI not Known RX | The total number of IMSI (International Mobile Subscriber Identity) Not Known messages received by this system, the specified service, or the specified interface. |
| Peer not responding RX | The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface. |
| Data Fwding not supported RX | The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface. |
| Fallback to GTPV1 RX | The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface. |
| Invalid Peer RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |
| Temp Rej due to HO in prog RX | The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface. |
| GTPC Entity Congestion RX | The number of times this node has received an overload condition indication from a peer. |
| Unknown RX | The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface. |
| PS to CS Complete Notification Denied [TX only] | |
| Context not existent TX | The total number of Context Does Not Exist messages sent by this system, the specified service, or the specified interface. |
| Invalid message format TX | The total number of Invalid Message Format messages sent by the system, the specified service, or the specified interface. |
| Version not supported TX | The total number of Version Not Supported messages sent by the system, the specified service, or the specified interface. |
| Invalid length TX | The total number of Invalid Length messages sent by the system, the specified service, or the specified interface. |
| Mandatory IE incorrect TX | The total number of Mandatory IE (Information Element) Incorrect messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|--|
| Mandatory IE missing TX | The total number of Mandatory IE Missing messages sent by the system, the specified service, or the specified interface. |
| System failure TX | The total number of System Failure messages sent by the system, the specified service, or the specified interface. |
| No resources available TX | The total number of No Resources Available messages sent by the system, the specified service, or the specified interface. |
| Semantic error in TFT TX | The total number of Semantic Error in TFT (Traffic Flow Template) messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in TFT TX | The total number of Syntactic Error in TFT messages sent by the system, the specified service, or the specified interface. |
| Semantic error in Pkt Fltr TX | The total number of Semantic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in Pkt Fltr TX | The total number of Syntactic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface. |
| Missing or unknown APN TX | The total number of Missing or Unknown APN (Access Point number) messages sent by the system, the specified service, or the specified interface. |
| GRE key not found TX | The total number of GRE (Generic Routing Encapsulation) Key Not Found messages sent by the system, the specified service, or the specified interface. |
| Reallocation failure TX | The total number of Reallocation Failure messages sent by the system, the specified service, or the specified interface. |
| Denied in RAT TX | The total number of Denied in RAT (Radio Access Technology) messages sent by the system, the specified service, or the specified interface. |
| Pref. PDN type unsupported TX | The total number of Preferred PDN Type Unsupported messages sent by the system, the specified service, or the specified interface. |
| All dynamic addr occupied TX | The total number of All Dynamic Addresses Occupied messages sent by the system, the specified service, or the specified interface. |
| UE ctx w/o TFT activated TX | The total number of UE Context without TFT (Traffic Flow Template) Already Activated messages sent by the system, the specified service, or the specified interface. |
| Prot type not supported TX | The total number of Protocol Type Not Supported messages sent by the system, the specified service, or the specified interface. |
| UE not responding TX | The total number of UE (User Equipment) Not Responding messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|--|
| UE refuses TX | The total number of UE Refuses messages sent by the system, the specified service, or the specified interface. |
| Service denied TX | The total number of Service Denied messages sent by the system, the specified service, or the specified interface. |
| Unable to page UE TX | The total number of Unable to Page UE (User Equipment) messages sent by the system, the specified service, or the specified interface. |
| No Memory TX | The total number of No Memory messages sent by the system, the specified service, or the specified interface. |
| User Auth Failed TX | The total number of User Authentication Failed messages sent by the system, the specified service, or the specified interface. |
| Apn Access Denied TX | The total number of APN (Access Point Number) Access Denied messages sent by the system, the specified service, or the specified interface. |
| Request Rejected TX | The total number of Request Rejected messages sent by the system, the specified service, or the specified interface. |
| Semantic error in TAD TX | The total number of Semantic Error in TAD (Traffic Aggregate Description) messages sent by the system, the specified service, or the specified interface. |
| Syntactic error in TAD TX | The total number of Syntactic Error in TAD messages sent by the system, the specified service, or the specified interface. |
| Collision with Nw init Req TX | The total number of Collision with Network Initiated Request messages sent by the system, the specified service, or the specified interface. |
| UE page unable due to Susp TX | The total number of Unable to Page UE (User Equipment) Due to Suspension messages sent by the system, the specified service, or the specified interface. |
| Conditional IE missing TX | The total number of Conditional IE (Information Element) Missing messages sent by the system, the specified service, or the specified interface. |
| Apn Restr Type Incompatible TX | The total number of APN (Access Point Number) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface. |
| Invalid len Piggybacked msg TX | The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages sent by the system, the specified service, or the specified interface. |

| Field | Description |
|--|--|
| Invalid remote Peer reply TX | The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface. |
| PTMSI signature mismatch TX | The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages sent by the system, the specified service, or the specified interface. |
| IMSI not Known TX | The total number of IMSI (International Mobile Subscriber Identity) Not Known messages sent by the system, the specified service, or the specified interface. |
| Peer not responding TX | The total number of Remote Peer Not Responding messages sent by the system, the specified service, or the specified interface. |
| Data Fwding not supported TX | The total number of Data Forwarding Not Supported messages sent by the system, the specified service, or the specified interface. |
| Fallback to GTPV1 TX | The total number of Fallback to GTPv1 messages sent by the system, the specified service, or the specified interface. |
| Invalid Peer TX | The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface. |
| Temp Rej due to HO in prog TX | The total number of Temporarily Rejected Due to Handover Procedure in Progress messages sent by the system, the specified service, or the specified interface. |
| GTPC Entity Congestion TX | The number of times this node has transmitted and overload condition indication to a peer. |
| Unknown TX | The total number of Unknown (unspecified rejection cause) messages sent by the system, the specified service, or the specified interface. |
| PS to CS Cancel Notification Denied [RX only] | |
| Context not existent RX | The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface. |
| Invalid message format RX | The total number of Invalid Message Format messages received by the system, the specified service, or the specified interface. |
| Version not supported RX | The total number of Version Not Supported messages received by this system, the specified service, or the specified interface. |
| Invalid length RX | The total number of Invalid Length messages received by this system, the specified service, or the specified interface. |
| Mandatory IE incorrect RX | The total number of Mandatory IE (Information Element) Incorrect messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|--|
| Mandatory IE missing RX | The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface. |
| System failure RX | The total number of System Failure messages received by this system, the specified service, or the specified interface. |
| No resources available RX | The total number of No Resources Available messages received by the system, the specified service, or the specified interface. |
| Semantic error in TFT RX | The total number of Semantic Error in TFT (Traffic Flow Template) messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TFT RX | The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface. |
| Semantic error in Pkt Fltr RX | The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Syntactic error in Pkt Fltr RX | The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface. |
| Missing or unknown APN RX | The total number of Missing or Unknown APN (Access Point Number) messages received by this system, the specified service, or the specified interface. |
| GRE key not found RX | The total number of GRE Key Not Found messages received by this system, the specified service, or the specified interface. |
| Reallocation failure RX | The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface. |
| Denied in RAT RX | The total number of Denied in RAT (Radio Access Technology) messages received by this system, the specified service, or the specified interface. |
| Pref. PDN type unsupported RX | The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface. |
| All dynamic addr occupied RX | The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface. |
| UE ctx w/o TFT activated RX | The total number of UE (User Equipment) Context without TFT Already Activated messages received by this system, the specified service, or the specified interface. |
| Prot type not supported RX | The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|--------------------------------|---|
| UE not responding RX | The total number of UE Not Responding messages received by this system, the specified service, or the specified interface. |
| UE refuses RX | The total number of UE Refuses messages received by this system, the specified service, or the specified interface. |
| Service denied RX | The total number of Service Denied messages received by this system, the specified service, or the specified interface. |
| Unable to page UE RX | The total number of Unable to Page UE (User Equipment) messages received by this system, the specified service, or the specified interface. |
| No Memory RX | The total number of No Memory messages received by this system, the specified service, or the specified interface. |
| User Auth Failed RX | The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface. |
| Apn Access Denied RX | The total number of APN (Access Point Name) Access Denied messages received by this system, the specified service, or the specified interface. |
| Request Rejected RX | The total number of Request Rejected messages received by this system, the specified service, or the specified interface. |
| Semantic error in TAD RX | The total number of Semantic Error in TAD (Traffic Aggregate Description) messages received by this system, the specified service, or the specified interface. |
| Syntactic error in TAD RX | The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface. |
| Collision with Nw init Req RX | The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface. |
| UE page unable due to Susp RX | The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface. |
| Conditional IE missing RX | The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface. |
| Apn Restr Type Incompatible RX | The total number of APN Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface. |
| Invalid len Piggybacked msg RX | The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface. |

| Field | Description |
|-------------------------------|---|
| Invalid remote Peer reply RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |
| PTMSI signature mismatch RX | The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages received by this system, the specified service, or the specified interface. |
| IMSI not Known RX | The total number of IMSI (International Mobile Subscriber Identity) Not Known messages received by this system, the specified service, or the specified interface. |
| Peer not responding RX | The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface. |
| Data Fwding not supported RX | The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface. |
| Fallback to GTPV1 RX | The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface. |
| Invalid Peer RX | The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface. |
| Temp Rej due to HO in prog RX | The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface. |
| GTPC Entity Congestion RX | The number of times this node has received an overload condition indication from a peer. |
| Unknown RX | The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface. |

IMSI/IMEI Statistics

The **show egtpc statistics verbose** command includes all of the data provided in the **show egtpc statistics** command, and appends the detailed rejection statistics and statistics for SRVCC requests and notifications, as described in the tables above. In addition, it tracks PDN session handling for invalid IMEI and IMSI-less devices.

Table 260: show egtpc statistics verbose Command Output Descriptions -- IMSI/IMEI Statistics

| Field | Description |
|-----------------------|-------------|
| IMSI/IMEI Statistics: | |

| Field | Description |
|--|---|
| IMSI Invalid Length | The total number of IMSI with invalid length. |
| IMSI All Zero | The total number of invalid value IMSI with all 0 content. |
| IMSI Not BCD | The total number of invalid IMSI with value violating 3GPP defined format. |
| IMEI Invalid Length | The total number of valid IMSI but Invalid IMEI with Protocol violations. |
| IMEI All Zero | The total number of valid IMSI but Invalid value IMEI with all 0 content. |
| IMEI Not BCD | The total number of valid IMSI but Invalid IMEI with value violating 3GPP defined format. |
| IMEI All Zero (unauthenticated imsi) | The total number of Emergency PDN connections with missing IMSI and invalid value IMEI with all 0 content. |
| IMEI Not BCD (unauthenticated imsi) | The total number of Emergency PDN connections with missing IMSI and Invalid IMEI with value violating 3GPP defined format. |
| IMEI All Zero (unauthenticated imsi and context replacement) | The total number of Emergency PDN connections with missing IMSI and IMEI session replacements because of invalid value IMEI with all 0 content. |
| IMEI Not BCD (unauthenticated imsi and context replacement) | The total number of Emergency PDN connections with missing IMSI and IMEI session replacements because of invalid IMEI with value violating 3GPP defined format. |

Collision Counter Support in the GTP Layer

GTPv2 message collisions occur in the network when a node is expecting a particular procedure message from a peer node but instead receives a different procedure message from the peer. The SAEGW software has been enhanced so that these collisions are now tracked by statistics and handled based on a pre-defined action for each message collision type.

If the SAEGW is configured as a pure P-GW or a pure S-GW, operators will still see the respective collision statistics if they occur.

The output of this command has been enhanced to provide information on GTPv2 message collisions, including:

- **Interface:** The interface on which the collision occurred: SGW (S4/S11), SGW (S5), or PGW (S5).
- **Old Proc (Msg Type):** Indicates the ongoing procedure at eGTP-C when a new message arrived at the interface which caused the collision. The Msg Type in brackets specifies which message triggered this ongoing procedure.
- **New Proc (Msg Type):** The new procedure and message type.
- **Action:** The pre-defined action taken to handle the collision. The action can be one of:
 - **No Collision Detected**

- **Suspend Old:** Suspend processing of the original (old) message, process the new message, then resume old message handling.
 - **Abort Old:** Abort the original message handling and processes the new message.
 - **Reject New:** The new message is rejected, and the original (old) message is processed.
 - **Silent Drop New:** Drop the new incoming message, and the old message is processed.
 - **Parallel Hndl:** Both the original (old) and new messages are handled in parallel.
 - **Buffer New:** The new message is buffered and processed once the original (old) message processing is done.
- **Counter:** The number of times each collision type has occurred.

**Important**

The *Message Collision Statistics* section of the command output only appears if any of the collision statistics have a counter total that is greater than zero.

Sample output:

```

Message Collision Statistics
  Interface      Old Proc (Msg Type)      New Proc (Msg Type)      Action
Counter
  SGW(S5)      NW Init Bearer Create (95)  NW Init PDN Delete (99)  Abort Old      1

```

In this instance, the output states that at the S-GW egress interface (S5) a Bearer creation procedure is going on due to a CREATE BEARER REQUEST(95) message from the P-GW. Before its response comes to the S-GW from the MME, a new procedure PDN Delete is triggered due to a DELETE BEARER REQUEST(99) message from the P-GW.

The action that is carried out due to this collision at eGTP-C is to abort (Abort Old) the Bearer Creation procedure and carry on normally with the PDN Delete procedure. The Counter total of 1 indicates that this collision happened only once.

show egtp-service all

Table 261: show egtp service all Command Output Descriptions

| Field | Description |
|--------------|--|
| Service name | The name of the service configured in the named context. |
| Service-ID | A system generated ID number applied to the service. |
| Context | The name of the context where the service is configured. |

| Field | Description |
|--------------------------------------|--|
| Interface Type | <p>The type of LTE interface this service is supporting.</p> <p>The following fields are in the output of the show egtp-service all command to accept or reject Create Session Request (CSR) on GTP based S2a and S2b interfaces.</p> <ul style="list-style-type: none"> • s5/s8 • s2a • s2b <p>Important This is a license-controlled feature. A valid feature license must be installed prior to configuring this feature. Contact your Cisco account representative for more information. These fields are only visible if the license is enabled.</p> |
| Status | The status of the service, i.e., "STARTED". |
| Restart Counter | Specifies the restart counter. |
| Max Remote Restart Counter Change | An integer from 1 to 255 that specifies the value configured with the gtpc max-restart-counter-change command in <i>eGTP-C Configuration Mode</i> . This value represents the counter change after which the node will detect a peer restart. Note that a peer restart will be detected only if the absolute difference between the New and Old restart counters is less than the value configured. For example, if the max-remote-restart-counter-change is 10 and current peer restart counter is 251, then eGTP will detect a peer restart only if the new restart counter is 252 through 255 or 0 through 5. Similarly, if the stored restart counter is 1, eGTP will detect a peer restart only if the new restart counter is 2 through 11. The default value is 255. |
| Message Validation Mode | The type of IE validation to be performed on messages received by this service. |
| GTPC Retransmission Timeout | The number of seconds between the re-sending of GTP-C echo messages. |
| GTPC Maximum Request Retransmissions | The number of control packet request message retransmissions that can be sent before an error condition is established. |
| GTPC IP QoS DSCP value | The IP QoS DSCP per-hop behavior to be marked on the outer header of signalling packets originating from the LTE component. |
| GTPC Echo | Identifies if GTP-C echo messages will be sent. |
| GTPC Echo Interval | The duration between the sending of GTP-C echo messages. |
| GTP-C Bind IPv4 Address | The IPv4 address of the interface to which this service is bound. |
| GTP-C Bind IPv6 Address | The IPv6 address of the interface to which this service is bound. |

| Field | Description |
|---|---|
| GTPC Peer Salvation | Indicates if peer salvation is enabled or disabled. |
| GTPC path failure detection policy | |
| Echo Timeout | Indicates if the Echo Timeout failure detection policy is enabled/disabled. |
| Echo Req/Rsp Restart counter change | Indicates if the Echo Req/Rsp Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Echo Request/Echo Response messages changes. |
| Control Mesg Restart counter change | Indicates if the Control Mesg Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Control Request/Control Response messages changes. |
| Collision handling DBcmd when MBreq pending | The collision handling setting for a Delete Bearer command (DBcmd) message when the Modify Bearer Request (MBreq) message for the default bearer is pending at the P-GW. Possible settings are: <ul style="list-style-type: none"> • Queue DBcmd: Queue the DBcmd message when the MBreq message is pending. • Drop DBcmd: Drop the DBcmd message when the MBreq message is pending. • Abort MBreq and handle Dbcmd: Abort the MBreq message and handle the DBcmd message. |
| GTPC Private Extension Overcharging Protection | Indicates if gtpc private-extension overcharge-protection is enabled in the egtp-service. If it is enabled, then EGTPC will encode/decode Overcharge-protection related data in/from private extension instead of Indication IE. If this option is disabled, then by default the EGTPC layer will encode/decode Overcharge-protection related data in the Indication IE. |
| GTPC Node Feature | Displays the node features enabled in this egtpc service. |



CHAPTER 48

show event-notif

This chapter includes the **show event-notif** command output table.

- [show event-notif statistics, on page 903](#)

show event-notif statistics

Table 262: show event-notif statistics Command Output Descriptions

| Field | Description |
|--|---|
| Notification Interface Endpoint | The name of the interface endpoint used for event notification selected for statistics display. |
| Peer Name | The name of peer which is connected to the interface endpoint and for which statistics are displayed. |
| Event | This group displays the statistics for the total number of successful or failed Event Notification messages processed by a peer. |
| Log | This group displays the statistics for the total number of successful or failed logging events notified a peer. |
| Successful | The total of successful events or logs processed on a particular peer. |
| Failed | The total of failed events or logs processed on a particular peer. |
| Failure stats due to no peer available | This group displays the statistics for the total number of failed events or logs processed on the notification interface due to non-availability of a peer. |
| Failed Event | The total number of failed events reported on the notification interface due to non-availability of a peer. |
| Failed Logs | The total number of failed logs reported on the notification interface due to non-availability of a peer. |



CHAPTER 49

show event-record statistics pgw

This chapter includes the **show event-record statistics pgw** command output table.

- [show event-record statistics pgw, on page 905](#)

show event-record statistics pgw

Table 263: show event-record statistics pgw Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Total Number of Event Records | The total number of event records (GTPv2 + Diameter). |
| GTPv2 Event Records | The total number of GTPv2 records |
| CSR | The number of CSR (Create Session Request) events. |
| CBR | The number of CBR (Create Bearer Request) events. |
| DSR | The number of DSR (Delete Session Request) events. |
| DBR | The number of DBR (Delete Bearer Request) events. |
| MBR | The number of MBR (Modify Bearer Request) events. |
| UBR | The number of UBR (Update Bearer Request) events. |
| PMIPv6 Event Records | The number of RTT (Real Time Tool) CDR records generated for PMIP P-GW events. |
| PBU-PBA | The number of records generated post PBA event at PMIP P-GW (record contains collated information of PBU and PBA). |
| BRI-BRA/Timeouts | The number of records generated post BRA event received/BRI timed out (records contains collated information of BRI and BRA). |
| Diameter Event Records | The total number of Diameter event records (S6b + Gx + Gy). |
| S6b Procedures | The number of events tracked over the S6b interface (AAR + RAR + ASR + STR). |

| Field | Description |
|---------------|---|
| AAR | The number AAR (AA-Request) events. |
| RAR | The number of RAR (Re-Auth-Request) events |
| ASR | The number of ASR (Abort Session Request) events |
| STR | The number of STR (Session Termination Request) events. |
| Gx Procedures | The number of events tracked over the Gx interface (CCR-I, CCR-U, CCR-T + RAR). |
| CCR-I | The number of CCR-I (Credit Control Request - Initialization) events. |
| CCR-U | The number of CCR-I (Credit Control Request - Update) events. |
| CCR-T | The number of CCR-I (Credit Control Request - Termination) events. |
| RAR | The number of RAR (Re-Auth-Request) events |
| Gy Procedures | The number of events tracked over the Gy interface (CCR-I, CCR-U, CCR-T + RAR). |
| CCR-I | The number of CCR-I (Credit Control Request - Initialization) events. |
| CCR-U | The number of CCR-I (Credit Control Request - Update) events. |
| CCR-T | The number of CCR-I (Credit Control Request - Termination) events. |
| RAR | The number of RAR (Re-Auth-Request) events |



CHAPTER 50

show fans

This chapter includes the **show fans** command output tables.

- [show fans](#), on page 907

show fans



Important On some platforms, the output will change to show the state of the fan controller and the speed of each fan.

Table 264: show fans Command Output Descriptions

| Field | Description |
|----------------------|--|
| Upper Fan Controller | The Upper Fan Tray pulls air through the chassis and exhausts it from the upper rear of the chassis. |
| Lower Fan Controller | The Lower Fan Tray pulls ambient air into the chassis and pushes it upward and through the chassis. |

| Field | Description |
|-------|---|
| State | <p>Displays the operational state of the fan tray and fan tray controller. The possible states are:</p> <p>Normal: There are no errors. This is the normal operating condition.</p> <p>Multiple Fan Failure: Multiple fans on the fan tray have failed.</p> <p>Single Fan Failure: A single fan on the fan tray has failed.</p> <p>Heartbeat Error: The redundant fan controller on the fan tray did not respond to the heartbeat signal.</p> <p>Fan A Communication Error: An error has occurred on the primary fan controller bus for the fan tray.</p> <p>Fan B Communication Error: An error has occurred on the redundant fan controller bus for the fan tray.</p> <p>Communication Error: An inter-bus communication error was experienced between the primary and redundant fan controllers on the fan tray.</p> <p>NOTE: If any of the error conditions above are reported for your system, it is likely that the fan tray will need to be repaired or replaced. Please contact your local sales representative for additional information.</p> |
| Speed | <p>Indicates the rate at which the fans on the fan tray are spinning as a percentage of the maximum speed.</p> <p>Lower percentages indicate that the fans are having to do less work to keep the chassis cool and should be the normal operating condition.</p> <p>Higher percentages indicate that the fans are having to work harder to keep the chassis cool. This could be due to a number of reasons including improper ventilation of the chassis, individual fan failures, or even a dirty air filter. Please refer to the <i>System Administration Guide</i> for information on troubleshooting the problem.</p> <p>NOTE: Systems equipped with the dual-speed fan tray controller display the fan speed as follows:</p> <p>Normal: The fans on the fan tray are operating at a normal speed to maintain a safe operating temperature for the chassis and its components.</p> <p>High: The fans on the fan tray are operating in high speed to maintain a safe operating temperature for the chassis and its components.</p> |

| Field | Description |
|-------|--|
| Temp | <p data-bbox="836 283 1528 346">Displays the temperature of the chassis in degrees Celsius at the fan tray.</p> <p data-bbox="836 363 1528 457">The ambient air temperature shown for the Lower Fan Controller should not exceed 40 degrees Celsius for an extended period of time.</p> <p data-bbox="836 474 1528 537">The exhaust air temperature shown for the Upper Fan Controller should not exceed 55 degrees Celsius.</p> <p data-bbox="836 554 1528 617">For additional information on air temperature, refer to the description of the show temperature command in this guide.</p> |



CHAPTER 51

show fa-service

This chapter includes the **show fa-service** command output tables.

- [show fa-service, on page 911](#)

show fa-service

Table 265: show fa-service name Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Service name | The name of the FA service for which the information are displayed. |
| Context | The name of the context in which this service is configured. |
| Bind | Status of connectivity of this service with context and IP address. |
| Max Subscribers | The number of subscribers are allowed to configure in this service. |
| Local IP Address | IP address to which this service is bound and communicate with HA. |
| Local IP Port | The port number on which this service is to communicate with HA. |
| Lifetime | The maximum time that the FA session can exist before it becomes expired. |
| Registration Timeout | The maximum duration of inactivity for a session registration before it becomes expired. |
| Advt Lifetime | Lifetime for an advertisement message. |
| Advt Interval | Interval between two advertisement messages. |
| Num Advt | The total number of advertisement messages broadcasted. |
| Advt Prefix Length Extn | Indicates the setting of prefix extension length in advertisement message. |

| Field | Description |
|--------------------------------|--|
| Reverse Tunnel | Status of reverse tunnel. |
| GRE Encapsulation | Status of Generic Routing Encapsulation (GRE). |
| Optimize Tunnel Reassembly | Status of tunnel reassembly optimization. |
| Allow Priv Addr w/o Rev Tunnel | Status of setting to allow private addresses without reverse tunnelling. |
| Dynamic MIP Key Update | Status of setting to update dynamic MIP key. |
| Ignore Dynamic MIP Key | Status of setting to ignore dynamic MIP keys. |
| Remove MN-AAA/MN-FAC extns | Status of setting to remove MN-AAA and/or MN-FA extensions from messages. |
| Standalone FA service | Show the standalone FA service status. If "Enabled" system performs as a standalone FA only. |
| Proxy MIP | Status of Proxy Mobile IP support. |
| Proxy MIP Max Retransmissions | Total number of retransmission for Proxy Mobile IP support. |
| Proxy MIP Retrans Timeout | Timeout duration in seconds between two of retransmissions for Proxy MIP support. |
| Proxy MIP Renew Percent Time: | Percentage of timeout duration. Once this much percent of timeout duration exhausted the Proxy MIP message will be retransmitted. For example, If retransmission timeout is set for 4 secs. and renew percent time is configured for 75%, the Proxy MIP messages will be retransmitted after 3 seconds. |
| SPI(s) | The configured Security Parameter Index (SPI) number between FA and HA. |
| FAHA | |
| Remote Addr | IP address of HA. |
| Hash Algorithm: | Hashing algorithm applicable for HA. |
| SPI Num | SPI number set for HA. |
| Replay Protection: | Type of reply protection enabled for reply messages. |
| Timestamp Tolerance | Total variation allowed in timestamp mismatch. |
| HA Monitoring: | Status of HA monitoring configuration. |
| GRE Sequence Numbers | Status of GRE sequence number setting in messages. |
| GRE Sequence Mode | Specifies the GRE sequence mode. |
| GRE reorder Timeout | Total timeout duration for GRE reorder. |

| Field | Description |
|-----------------------------------|---|
| GRE Checksum | Status of GRE Checksum setting in messages. |
| GRE Checksum Verification | Status of GRE Checksum verification setting. |
| Registration Revocation | Status of registration revocation setting. |
| Reg-Revocation I Bit | Status of I-bit setting for registration revocation. |
| Reg-Revocation Max Retries | Maximum number of retries allowed for registration revocation. |
| Reg-Revocation Timeout | Total duration allowed between two retries for registration revocation. |
| Reg-Rev on InternalFailure | Specifies whether registration revocation will be triggered on internal failure or not. |
| Default Subscriber | Name of the default subscriber. |
| Max sessions | Maximum number of subscriber sessions allowed. |
| Max challenge len | Length of challenge key for subscriber authentication. |
| Challenge Window | total number of windows opened for challenge. |
| Service Status | Status of this service. |
| MN-AAA Auth Policy | Specifies the lookup criteria for authentication policy between MN and AAA in RRP. Possible settings are: always ignore old challenge messages except those forwarded by the new HA always ignore old challenge messages except those forwarded by the new HA always ignore old challenge messages except those forwarded by the new HA always ignore old challenge messages except those forwarded by the new HA |
| Optimize-Retries | Status of setting for optimized retries when authentication policy is not received for MN and AAA. |
| MN-HA Auth Policy | Specifies the lookup criteria for authentication policy between MN and HA in RRP. |
| AAA Distributed MIP Keys Override | Specifies the setting for the FA service to override dynamic keys from AAA with static keys to support MIP registration with HAs which do not support dynamic keys. |
| Newcall Policy | Specify that new call policy enabled or disabled to handle new calls. |
| Idle Timeout Mode | Idle timeout mode allowed for this service. |
| Ignore Stale Challenge | Status of setting to ignore old/stale challenge messages. |
| Limit Reg Lifetime | Status of setting to limit registration lifetime. |
| Dynamic HA Failover | Status of setting to handle dynamic HA failovers. |
| AAA HA override | Status of setting to override HA settings if received from AAA. |
| HA Failover | Status of setting to handle HA failovers. |

| Field | Description |
|---------------------------|--|
| Retrans Timeout | Timeout duration between two retransmission of probe on HA failover. |
| Retries Before Swtichover | Total number of retries before switching to another HA. |
| Maximum retries | Total number of retries allowed. |
| Load Balance | Status of setting to handle HA performance issues or HAa failovers by load balancing. |
| HA Monitoring | Status of setting to monitor HA. |
| Inactivity Timeout | Timeout duration after which a probe message will be sent to HA. |
| Monitor Reply Timeout | Timeout duration to wait for reply from HA after which a probe message will be resent to HA. |
| Maximum retries | Total number of retries allowed. |



CHAPTER 52

show fng-service statistics

This chapter includes the **show fng-service statistics** command output tables.

- [show fng-service statistics](#), on page 915

show fng-service statistics

Table 266: show fng-service statistics Command Output Description

| Field | Description |
|------------------------------------|--|
| Session Statistics | |
| Current sessions total | Total number of sessions in progress including transient sessions. |
| Active current | Total number of currently active sessions. |
| Dormant current | Total number of currently dormant sessions. |
| Active IPv4 current | Total number of currently active IPv4 sessions. |
| Active IPv6 current | Total number of currently active IPv6 sessions. |
| Dormant IPv4 current | Total number of currently dormant IPv4 sessions. |
| Dormant IPv6 current | Total number of currently dormant IPv6 sessions. |
| Total setup attempts | Total number of session setup attempts. |
| Total setup success | Total number of successful session attempts. |
| Total attempts failed | Total number of failed session attempts. |
| Disconnect locally | Total number of sessions released locally. |
| Disconnect remotely | Total number of sessions released remotely. |
| Disconnect remotely before connect | Total number of sessions released remotely before connecting. |
| Session Disconnect Reasons | |

| Field | Description |
|--------------------------|--|
| Remote disconnect ipsec | Number of sessions disconnected because of remote party (mobile) hang-up. Description: Number of sessions disconnected because of IPSEC Type: Proprietary Counter/Int32 Availability: per FNG service |
| Admin disconnect | Number of sessions disconnected by the administrator. |
| Idle timeout | Number of sessions disconnected because the idle timer has timed out. |
| Absolute timeout | Number of sessions disconnected because the Absolute timer has timed out. |
| Long duration timeout | Number of sessions disconnected because the long duration timer has timed out. |
| Session setup timeout | Number of sessions disconnected because the Session Manager's session setup timer has timed out. |
| No resource | Number of sessions disconnected because the system has run out of resources (flows, memory resources, etc.). |
| Auth failure | Number of sessions disconnected because of an authentication failure. |
| Flow add failure | Number of sessions disconnected because a flow could not be added on the NPU. |
| Invalid dest-context | Number of sessions disconnected because the destination context received from the AAA server is invalid.e |
| Source address violation | Number of sessions disconnected because the source IP address is invalid. |
| Duplicate Request | Number of sessions disconnected because of duplicate requests. |
| Addr assign failure | Number of sessions disconnected because no remote IP address has been assigned. |
| Miscellaneous reasons | Number sessions disconnected because of miscellaneous reasons. |
| Data Stats | |
| Total Bytes Sent | Total number of bytes sent. |
| Total Packets Sent | Total number of packets sent. |
| Total Bytes Rcvd | Total number of bytes received. |
| Total Packets Rcvd | Total number of packets received. |

| Field | Description |
|------------------------------|---|
| EAP Server Statistics | |
| Total Received | Total number of EAP messages received from the EAP server in pass-through mode. |
| Success Received | Total Number of EAP success messages received from the EAP server in pass-through mode. |
| Challenge Received | Total number of EAP challenge messages received from the EAP server in pass-through mode. |
| Failures Received | Total number of EAP failure messages received from the EAP server in pass-through mode. |
| Total Sent | Total number of EAP messages transmitted to the EAP server in pass-through mode. |
| Initial Requests | Total number of initial EAP messages transmitted to the EAP server in pass-through mode. |
| Requests Forwarded | Total number of EAP requests forwarded to the EAP server in pass-through mode. |



CHAPTER 53

show ggsn-service

This chapter includes the **show ggsn-service** command output tables.

- [show ggsn-service sgsn-table](#), on page 919
- [show ggsn-service all](#), on page 920

show ggsn-service sgsn-table

Table 267: show ggsn-service sgsn-table Command Output Descriptions

| Field | Description |
|--------------------|--|
| GTP Version | GPRS Tunnelling Protocol. (0) - GTPRS (1) - UMTS |
| Active | GTP condition. (I) - Inactive (A) - Active |
| GTPC Echo | GPRS Tunneling Protocol-Control message (D) - Disabled (E) - Enabled |
| PLMN Type | Public land mobile network type. (H) - Home (F) - Foreign (U) - Unknown |
| SGSN Stats | SGSN statistics. (A) - Available (U) - Unavailable |
| Service ID | GGSN Service ID. |
| SGSN Address | IP address of each active SGSN. |
| Restart Counter | The restart counter sent by the SGSN. Increments by 1 with each restart. |
| Number of Restarts | Number of times the restart of the particular SGSN is detected, i.e., the number of times a NEW restart counter is received from the SGSN in a GTPC request message. |
| Curr Subs | Number of current subscribers to each SGSN. |
| Max Subs | Maximum number of permitted subscribers to each SGSN. |

show ggsn-service all

Displays the configuration information for all GGSN services configured on the system.

Table 268: show ggsn-service all Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Service name | The name of the GGSN service. |
| Context | The context name where the GGSN service is configured. |
| Associated PGW svc | The name of the P-GW service associated to the GGSN service. |
| Associated GTPU svc | The name of the GTP-U service associated to the GGSN service. |
| Associated IPNE svc | The name of the IPNE service associated to the GGSN service. |
| Associated Peer map | The name of the peer map associated to the GGSN service. |
| Accounting Context Name | The context name where the accounting configuration and/or interface(s) are configured. |
| dns-client Context Name | The context name in which a DNS client configuration is present. |
| Authorize | Enables/disables subscriber session authorization with HSS over S6b Diameter interface. |
| S6b IPv6 Reporting | Specifies if the IPv6 address reporting through AAR towards the S6b interface is enabled or disabled. |
| Fqdn-name | The name of Fully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between GGSN and 3GPP AAA/HSS. |
| Bind | Binds the GGSN service to a logical IP interface serving as the Gn interface. |
| Local IP Address | The IP address (IPv4 and/or IPv6) of the interface configured as the Gn interface. |
| Self PLMN Id | Specifies the GGSN's public land mobile network (PLMN) identifiers. |
| Retransmission Timeout | The time to control the retransmission of GTP control packets when no response is received from an SGSN. |
| Max Retransmissions | Indicates the maximum number of times that GTP control packets are retransmitted. |
| Restart Counter | Specifies the restart counter |

| Field | Description |
|---------------------------------------|---|
| Echo Interval | Specifies the frequency at which the GGSN service sends GTPv1-C Echo packets to the SGSN(s) it is configured to communicate with. |
| GTPC Echo Mode | Specifies if GTP-C echo mode is set as default. |
| GTPC Echo Retransmission Timeout | Specifies the frequency at which the GGSN service retransmits GTPv1-C Echo packets to the SGSN(s) it is configured to communicate with. |
| Guard Interval | Specifies the amount of time that must pass before a GGSN service treats a redundant PDP context request as a new request instead of a re-send of a previous request. |
| PLMN Policy | Specifies the public land mobile network (PLMN) policy. |
| Setup Timeout | Specifies the maximum amount of time the GGSN service allows for the setting up of PDP contexts. |
| S-GW Interface Excluded | Excludes the specified interface. |
| SGSN MCC MNC preference | Specifies the MCC and MNC preference for SGSN. |
| Unlisted SGSN PLMN Id. | Specifies the PLMN ID of the unlisted SGSN. |
| Unlisted SGSN rat-type | Specifies the type of the radio access technology for unlisted SGSN. |
| Reject Code Policy | |
| Authentication Server Timeout | Specifies the reject code used by the GGSN if communication with an authentication server times out. |
| Accounting Server Timeout | Specifies the reject code used by the GGSN if communication with an accounting server times out. |
| Ran Procedure Ready | Specifies if the RAN Procedure Ready feature is enabled/disabled for the specified GGSN service. |
| NSAPI in Create PDP response | Specifies the Network Service Access Point Identifier in the Create PDP response. |
| Map MBR to AMBR in Update PDP request | Indicates the status of MBR to AMBR mapping in Update PDP Context Request message. |
| Suppress NRUPC triggered by CPC | Indicates if suppress NRUPC triggered by CPC is enabled or disabled. |
| Suppress NRUPC triggered by UPC | Indicates if suppress NRUPC triggered by UPC is enabled or disabled. |
| Support e-ARP | Indicates if the support for enhanced ARP is enabled or disabled. |
| Support MS QoS Change | Indicates if the support for MS QoS change is enabled or disabled. |

| Field | Description |
|---|---|
| Decode MCC MNC parameter of ULI as HexaDecimal Digits | Indicates if the decoding of MCC and MNC parameters of ULI as hexadecimal digits has been enabled or disabled. |
| Duplicate Subscriber Address Request | Specifies the status of duplicate subscriber address request. |
| trace-collection-entity | Specifies the trace collection entity which is the destination node in Network management where trace files are transferred to and stored. |
| Path Failure Detection on gtp msg | Specifies the path failure detection policy on GTP-U echo messages that have been retransmitted the maximum number of retry times. |
| GTP Private Extensions | Specifies the customer specific private extension in GTP-C messages. |
| Max IP sessions | Specifies the maximum number of IP sessions. |
| Max PPP sessions | Specifies the maximum number of PPP sessions in GGSN service. |
| Max sessions | Specifies the total number of maximum sessions including IP and PPP in GGSN service. |
| Max Primary sessions | Specifies the total number of maximum primary sessions including IP and PPP in GGSN service. |
| Max Sec-per-primary sessions | Specifies the total number of maximum secondary sessions per primary session in GGSN service. |
| Service Status | Specifies the status of the GGSN service. |
| Newcall Policy | Specifies if the new call related behavior of GGSN service is enabled/disabled when duplicate sessions with same IP address request is received. |
| MBMS Policy | Specifies the configured MBMS policy for Multicast and/or Broadcast mode in this GGSN service. |
| MBMS Charging ID Optimization | Specifies if the MBMS charging ID optimization is enabled/disabled for the GGSN service. |
| GTPC Prioritized APN(s) | Specifies if the prioritized APNs have been added for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service. |
| GTPC Prioritized ARP(s) | Specifies if the prioritized ARPs have been added for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service. |
| GTPC Prioritized Rel99 ARP(s) | Specifies if the prioritized Release 99 ARPs have been configured for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service. |

| Field | Description |
|---|---|
| 3GPP Qos to DSCP Mapping (for G-PDUs) | This group indicates the 3GPP QoS to DSCP mapping information. |
| qci 1: ef | Indicates the DSCP configured for QCI1 type of traffic. |
| qci 2: ef | Indicates the DSCP configured for QCI2 type of traffic. |
| qci 3: af11 | Indicates the DSCP configured for QCI3 type of traffic. |
| qci 4: af11 | Indicates the DSCP configured for QCI4 type of traffic. |
| qci 5: ef | Indicates the DSCP configured for QCI5 type of traffic. |
| qci 6: ef | Indicates the DSCP configured for QCI6 type of traffic. |
| qci 7: af21 | Indicates the DSCP configured for QCI7 type of traffic. |
| qci 8: af21 | Indicates the DSCP configured for QCI8 type of traffic. |
| qci 9: be | Indicates the DSCP configured for QCI9 type of traffic. |
| 3GPP Qos to DSCP Mapping based on Alloc. Prio | This group indicates the 3GPP QoS to DSCP mapping information based on allocation priority. |
| qci 5 (Alloc.P 1): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 1. |
| qci 5 (Alloc.P 2): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 2. |
| qci 5 (Alloc.P 3): ef | Indicates the DSCP configured for QCI5 type of traffic with allocation priority 3. |
| qci 6 (Alloc.P 1): ef | Indicates the DSCP configured for QCI6 type of traffic with allocation priority 1. |
| qci 6 (Alloc.P 2): ef | Indicates the DSCP configured for QCI6 type of traffic with allocation priority 2. |
| qci 6 (Alloc.P 3): ef | Indicates the DSCP configured for QCI6 type of traffic with and allocation priority 3. |
| qci 7 (Alloc.P 1): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 1. |
| qci 7 (Alloc.P 2): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 2. |
| qci 7 (Alloc.P 3): af21 | Indicates the DSCP configured for QCI7 type of traffic with allocation priority 3. |
| qci 8 (Alloc.P 1): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 1. |

| Field | Description |
|--|---|
| qci 8 (Alloc.P 2): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 2. |
| qci 8 (Alloc.P 3): af21 | Indicates the DSCP configured for QCI8 type of traffic with allocation priority 3. |
| GTPC messages | Indicates the Best effort forwarding PHB for GTPC messages. |
| CC Behavior | Specifies the 3GPP behavior bit associated with the GGSN's charging characteristics. |
| Charging Characteristics (CC) Profiles | This group provides the charging characteristics profiles configured in this GGSN service. |
| Bucket | Specifies the charging bucket configured for charging characteristic in this GGSN service |
| SGSN Configuration List | Specifies the list of SGSNs that this GGSN service is allowed to communicate with. |
| GTPC Outgoing Throttling | Specifies if outgoing throttling has been enabled, which indicates the number of messages that were removed from the queue (due to any collision, or max retransmission expired). |
| RLF Template Name | Specifies the template name for RLF for throttling support. |
| GTPC Incoming Throttling Params | Specifies if the incoming throttling of GTPC has been configured. It includes following parameters: |
| Message Rate (per sec) | Indicates the number of messages per second. Default: 20000 |
| Delay Tolerance (secs) | Indicates the delay tolerance in seconds. Default: 5 |
| Queue Size | Indicates the queue size. Default: 10000 |



CHAPTER 54

show gmb

This chapter includes the **show gmb** command output tables.

- [show gmb statistics, on page 925](#)

show gmb statistics

Table 269: show gmb statistics Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| MBMS Context Stats | |
| Total Current | Total number of MBMS contexts currently in active status on Gmb interface. |
| Total Setup | Total number of MBMS contexts are in setup status on Gmb interface. |
| Total Released | Total number of MBMS contexts release on Gmb interface. |
| Total Denied | Total number of MBMS contexts requests denied on Gmb interface. |
| MBMS UE | Total number of UEs in active/setup status or released/denied on this Gmb interface for MBMS service. |
| MBMS Mcast Bearer | Total number of multicast bearers in active/setup status or released/denied on this Gmb interface for MBMS service. |
| MBMS Bcast Bearer | Total number of broadcast bearers in active/setup status or released/denied on this Gmb interface for MBMS service. |
| MBMS UE Context Management Stats | |
| MBMS UE Auth | Total number of UE Auth Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of UE Auth Request messages received and accepted on this Gmb interface for MBMS service. |

| Field | Description |
|--|--|
| Denied | Total number of UE Auth Request messages received and denied on this Gmb interface for MBMS service. |
| MBMS UE Update | Total number of UE Update Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of UE Update Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of UE Update Request messages received and denied on this Gmb interface for MBMS service. |
| MBMS UE Delete Tx | Total number of UE Delete Request messages transmitted on this Gmb interface for MBMS service. |
| Accepted | Total number of UE Delete Request messages transmitted and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of UE Delete Request messages transmitted and denied on this Gmb interface for MBMS service. |
| MBMS UE Delete Rx | Total number of UE Delete Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of UE Delete Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of UE Delete Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of UE Delete Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Bearer (Multicast) Context Management Stats | |
| MBMS Bearer Reg | Total number of Multicast Bearer Context Register request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Bearer Context Register request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Multicast Bearer Context Register request messages received and denied on this Gmb interface for MBMS service. |
| MBMS Bearer Dereg TX | Total number of Multicast Bearer Context Dereg Request messages transmitted on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Bearer Context Dereg Request messages transmitted and accepted on this Gmb interface for MBMS service. |

| Field | Description |
|------------------------|--|
| Denied | Total number of Multicast Bearer Context Dereg Request messages transmitted and denied on this Gmb interface for MBMS service. |
| MBMS Bearer Dereg RX | Total number of Multicast Bearer Context Dereg messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Bearer Context Dereg Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Multicast Bearer Context Dereg Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Multicast Bearer Context Dereg Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Mcast Sess Start | Total number of Multicast Session Start Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Session Start Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Multicast Session Start Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Multicast Session Start Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Mcast Sess Stop | Total number of Multicast Session Stop Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Session Stop Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Multicast Session Stop Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Multicast Session Stop Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Mcast Sess Update | Total number of Multicast Session Update Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Multicast Session Update Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Multicast Session Update Request messages received and denied on this Gmb interface for MBMS service. |

| Field | Description |
|--|--|
| Discarded | Total number of Multicast Session Update Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Bearer (Broadcast) Context Management Stats | |
| MBMS Bcast Sess Start | Total number of Broadcast Session Start Request messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Broadcast Session Start Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Broadcast Session Start Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Broadcast Session Start Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Bcast Sess Stop | Total number of Broadcast Session Stop messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Broadcast Session Stop Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Broadcast Session Stop Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Broadcast Session Stop Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Bcast Sess Update | Total number of Broadcast Session Update messages received on this Gmb interface for MBMS service. |
| Accepted | Total number of Broadcast Session Update Request messages received and accepted on this Gmb interface for MBMS service. |
| Denied | Total number of Broadcast Session Update Request messages received and denied on this Gmb interface for MBMS service. |
| Discarded | Total number of Broadcast Session Update Request messages received but discarded on this Gmb interface for MBMS service. |
| MBMS Bearer (Unknown Service Type) Stats | |
| MBMS Unknown Sess Start denied | Total number of unknown type of Session Start messages received and denied on this Gmb interface for MBMS service. |
| MBMS Unknown Sess Stop denied | Total number of unknown type of Session Stop messages received and denied on this Gmb interface for MBMS service. |
| MBMS Unknown Sess Update denied | Total number of unknown type of Session Update messages received and denied on this Gmb interface for MBMS service. |



CHAPTER 55

show gmm-sm

This chapter includes the **show gmm-sm** command output tables.

- [show gmm-sm statistics](#), on page 929
- [show gmm-sm statistics verbose](#), on page 957

show gmm-sm statistics

Table 270: show gmm-sm statistics Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Session Statistics | |
| Attached Subscribers | Statistics for attached subscribers. |
| Total Attached | Total subscribers attached for 2G and 3G. |
| 3G Attached | Total subscribers attached for 3G only. |
| 2G Attached | Total subscribers attached for 3G only. |
| Home Subscribers | Statistics for attached home subscribers. |
| Total Home | Total home subscribers attached for 2G and 3G. |
| 3G Home | Total home subscribers attached for 3G only. |
| 2G Home | Total home subscribers attached for 3G only. |
| Visiting National Subscribers | Statistics for attached visiting national subscribers. |
| Total-Visiting-National | Total visiting national subscribers attached for 2G and 3G. |
| 3G-Visiting-National | Total visiting national subscribers attached for 3G only. |
| 2G-Visiting-National | Total visiting national subscribers attached for 3G only. |
| Visiting Foreign Subscribers | Statistics for attached visiting foreign subscribers. |
| Total-Visiting-Foreign | Total visiting foreign subscribers attached for 2G and 3G. |

| Field | Description |
|--|---|
| 3G-Visiting-Foreign | Total visiting foreign subscribers attached for 3G only. |
| 2G-Visiting-Foreign | Total visiting foreign subscribers attached for 2G only. |
| Network Sharing Subscribers | Statistics for network sharing subscribers. |
| 3G-Supporting-UE | Total number of 3G Network Sharing Supporting User Equipment currently in the system. This counter pegs when: A network sharing supporting UE connects with the 3G SGSN. |
| 3G-Non-Supporting-UE | Total number of 3G Network Sharing Non-supporting User Equipment currently in the system. This counter pegs when: A network sharing non-supporting UE connects with the 3G SGSN. |
| Subscribers in PMM-REGISTERED state | Total subscribers in PMM registered state, including connected and idle. |
| PMM-CONNECTED | Total number of subscribers in PMM connected state. |
| PMM-IDLE | Total number of subscribers in PMM idle state. |
| Activated Subscribers | Statistics for activated subscribers. |
| Total Activated | Total number of activated 2G and 3G subscriber. |
| 3G Activated | Total number of activated 3G subscribers only. |
| 2G Activated | Total number of activated 2G subscribers only. |
| Activate PDP Contexts | Statistics for activated PDP contexts. |
| Total Actv PDP Ctx | Total number of activated 2G and 3G PDP contexts. |
| 3G-Actv Pdp Ctx | Total number of activated 3G PDP contexts only. |
| 2G-Actv Pdp Ctx | Total number of activated 2G PDP contexts only. |
| Total Actv Pdp Ctx with Direct Tunnel | Total number of activated PDP contexts through direct tunnel. |
| Activated HSPA Subscribers | Displays the list of active HSPA subscribers. |
| Activated HSPA subscribers (16-32Mbps) | This counter displays the number of subscribers having: <ul style="list-style-type: none"> • One PDP context with negotiated MBR in the range 16-32 Mbps, or • One or more PDP context with negotiated MBR in the range 16-32 Mbps, or • One PDP context with negotiated MBR in the range 16-32 Mbps and rest with MBR less than 16 Mbps |

| Field | Description |
|---|--|
| Activated HSPA subscribers (32-64Mbps) | This counter displays the number of subscribers having: <ul style="list-style-type: none"> • One PDP context with negotiated MBR in the range 32-64 Mbps, or • One or more PDP context with negotiated MBR in the range 32-64 Mbps, or • One PDP context with negotiated MBR in the range 32-64 Mbps and rest with MBR less than 32 Mbps |
| Activated HSPA subscribers (64-128Mbps) | This counter displays the number of subscribers having: <ul style="list-style-type: none"> • One PDP context with negotiated MBR in the range 64-128 Mbps, or • One or more PDP context with negotiated MBR in the range 64-128 Mbps, or • One PDP context with negotiated MBR in the range 64-128 Mbps and rest with MBR less than 64 Mbps |
| Activated HSPA subscribers (128-256Mbps) | This counter displays the number of subscribers having: <ul style="list-style-type: none"> • One PDP context with negotiated MBR in the range 128-256 Mbps, or • One or more PDP context with negotiated MBR in the range 128-256 Mbps, or • One PDP context with negotiated MBR in the range 128-256 Mbps and rest with MBR less than 128 Mbps |
| Activated HSPA PDP Contexts | Displays the list of active HSPA PDP contexts. |
| Activated HSPA PDP Contexts (16-32Mbps) | Displays the number of HSPA PDP contexts with the negotiated MBR in the range 16-32 Mbps. |
| Activated HSPA PDP Contexts (32-64Mbps) | Displays the number of HSPA PDP contexts with the negotiated MBR in the range 32-64 Mbps. |
| Activated HSPA PDP Contexts (64-128Mbps) | Displays the number of HSPA PDP contexts with the negotiated MBR in the range 64-128 Mbps. |
| Activated HSPA PDP Contexts (128-256Mbps) | Displays the number of HSPA PDP contexts with the negotiated MBR in the range 128-256 Mbps. |
| Message Statistics | Indicates the statistics of messages. |
| Specific Procedures | Indicates the statistics related to specific procedures. |
| Attach Request | Total number of messages for Attach Request |
| Total-Attach | Indicates the statistics of total attach. |
| IMSI | Total attach through international mobile subscriber identity (IMSI). |

| Field | Description |
|-----------------------|--|
| Total-IMSI-Attach | Total international mobile subscriber identity (IMSI) attach including 2G and 3G. |
| 3G-IMSI-Attach | 3G-IMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 3G-IMSI attach with GPRS only access. |
| Combined Attached | Total 3G-IMSI attach with combined (PS and CS) access. |
| 2G-IMSI-Attach | 2G-IMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 2G-IMSI attach with GPRS only access. |
| Combined Attached | Total 2G-IMSI attach with combined (PS and CS) access. |
| PTMSI | Total attach through Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Total-PTMSI-Attach | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G. |
| 3G-PTMSI-Attach | 3G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 3G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total 3G-P-TMSI attach with combined (PS and CS) access. |
| 2G-PTMSI-Attach | 2G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 2G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total 2G-P-TMSI attach with combined (PS and CS) access. |
| Attach Accept | Statistics of total attach accepts. |
| Total-Attach-Accept | Total attach accepts including 2G and 3G. |
| 3G-Attach-Accept | 3G-attach accept statistics for GPRS and non-GPRS. |
| Gprs-Attached | Total 3G-attach accepts with GPRS only access. |
| Comb-Attached | Total 3G-attach accepts with combined (PS and CS) access. |
| 2G-Attach-Accept | 2G-attach accept statistics for GPRS and non-GPRS. |
| Gprs-Attached | Total 2G-attach accepts with GPRS only access. |
| Comb-Attached | Total 2G-attach accepts with combined (PS and CS) access. |
| Attach Complete | Statistics of total attach completed. |
| Total-Attach-Complete | Total attach completed including 2G and 3G. |
| 3G-Attach-Complete | 3G-attach complete statistics for GPRS and non-GPRS. |

| Field | Description |
|-----------------------------|---|
| 2G-Attach-Complete | Total 2G-attach completed with GPRS only access. |
| Attach Reject | Total 2G and 3G attach rejected statistics. |
| Total-Attach-Reject | Total 2G and 3G attach rejected statistics for GPRS and non-GPRS. |
| 3G-Attach-Reject | Total 3G-attach rejected for GPRS only access. |
| 2G-Attach-Reject | Total 2G-attach rejected for combined (PS and CS) access. |
| Routing Area Update Request | RAU request statistics. |
| Total-RAU | Total RAU request messages. |
| Total-Intra-SGSN-RAU | Total intra-SGSN RAU request messages. |
| Total-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN Routing Area (RA) updates. |
| 3G-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN Routing Area (RA) updates for 3G. |
| 2G-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN RA updates for 2G. |
| Total-Periodic-Intra-RAU | Total messages for periodic intra-RA updates. |
| 3G-Periodic-Intra-RAU | Total messages for periodic intra-RA updates for 3G. |
| 2G-Periodic-Intra-RAU | Total messages for periodic intra-RA updates for 2G. |
| Total-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) services. |
| 3G-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) 3G services. |
| 2G-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) 2G services. |
| Total-PS-Inter-SGSN-RAU | Total packet switched, inter-SGSN-RA update request messages. |
| 3G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages for 3G service. |
| 2G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages for 2G service. |
| Total-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages. |
| 3G-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages for 3G service. |

| Field | Description |
|------------------------------|--|
| 2G-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages for 2G service. |
| Routing Area Update Accept | Statistics of accepted routing area update messages. |
| Total-RAU-Accept | Total number of routing area update messages accepted. |
| 3G-RAU-Accept | Total number of routing area update messages accepted for 3G service. |
| 3G-Intra-SGSN-RAU-Accept | Total number of intra-SGSN routing area update messages accepted for 3G service. |
| RA-Updated | Total number of routing area information updated for 3G service. |
| Comb RA/LA-Updated | Total number of combined (PS and CS) routing area or location area information updated for 3G service. |
| 2G-RAU-Accept | Total number of routing area update messages accepted for 2G service. |
| 2G-Intra-SGSN-RAU-Accept | Total number of intra-SGSN routing area update messages accepted for 2G service. |
| RA-Updated | Total number of routing area information updated for 2G service. |
| Comb RA/LA-Updated | Total number of combined (PS and CS) routing area or location area information updated for 2G service. |
| 3G-Inter-SGSN-RAU-Accept | Total number of inter-SGSN routing area update messages accepted for 3G service. |
| RA-Updated | Total number of routing area information updated for 3G service. |
| Comb RA/LA-Updated | Total number of combined (PS and CS) routing area or location area information updated for 3G service. |
| 2G-RAU-Accept | Total number of routing area update messages accepted for 2G service. |
| 2G-Inter-SGSN-RAU-Accept | Total number of inter-SGSN routing area update messages accepted for 2G service. |
| RA-Updated | Total number of routing area information updated for 2G service. |
| Comb RA/LA-Updated | Total number of combined (PS and CS) routing area or location area information updated for 2G service. |
| Routing Area Update Complete | Routing area update complete messages statistics. |
| Total-RAU-Complete | Total number of routing area update complete messages. |
| 3G-RAU-Complete | Total number of routing area update complete messages for 3G service. |

| Field | Description |
|---|--|
| 2G-RAU-Complete | Total number of routing area update complete messages for 2G service. |
| Routing Area Update Reject | Routing Area Update (RAU) reject messages statistics. |
| Total-RAU-Reject | Total number of RAU reject messages. |
| 3G-RAU-Reject | Total number of RAU reject messages for 3G service. |
| 2G-RAU-Reject | Total number of RAU reject messages for 2G service. |
| Detach Request | Detach request message statistics. |
| Dropped-Detach-Req | Total number of dropped detach request messages. |
| 3G-MS-Init-IMSI-Detach-Req-During-actv/sms-auth-ongoing | This counter is incremented if UE-Init-IMSI-Detach-Request is dropped when it is received during ongoing authentication of Activation/SMS. |
| Total-Detach-Req | Total number of detach request messages. |
| Total-MS-Init-Detach-Req | Total number of Mobile Station (MS) initiated detach requests. |
| 3G-MS-Init-GPRS-Detach-Req | Total number of MS initiated GPRS (PS) detach requests for 3G service. |
| 3G-MS-Init-IMSI-Detach-Req | Total number of MS initiated IMSI (CS) detach requests for 3G service. |
| 3G-MS-Init-Comb-Detach-Req | Total number of MS initiated combined (IMSI and GPRS) detach requests for 3G service. |
| 2G-MS-Init-GPRS-Detach-Req | Total number of MS initiated GPRS detach requests for 2G service. |
| 2G-MS-Init-IMSI-Detach-Req | Total number of MS initiated IMSI detach requests for 2G service. |
| 2G-MS-Init-Comb-Detach-Req | Total number of MS initiated combined (PS and CS) detach requests for 2G service. |
| Total-Nw-Init-Detach-Req | Total number of network initiated detach requests. |
| 3G-Nw-Init-Reattach-Req | <p>During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. This Detach Request has a detach type -Reattach required, when it wants the MS to attach to the network again for GPRS services.</p> <p>This counter pegs when: A clear subscriber detach operation is performed.</p> |

| Field | Description |
|-----------------------------|--|
| 2G-Nw-Init-Reattach-Req | <p>During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach required, when it wants the MS to attach again for GPRS services.</p> <p>This counter pegs when: when a clear subscriber operation is performed.</p> |
| 3G-Nw-Init-Reattach-Not-Req | <p>During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach not required, when it does not expect the MS to attach again for GPRS services.</p> <p>This counter pegs when: reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn) is incremented.</p> |
| 2G-Nw-Init-Reattach-Not-Req | <p>During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach not required, when it does not expect the MS to attach again for GPRS services.</p> <p>This counter pegs when: reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn) is incremented.</p> |
| 3G-Nw-Init-IMSI-Detach | <p>When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS.</p> <p>This counter pegs when: VLR-reset indication and a next uplink activity from MS is incremented.</p> |
| 2G-Nw-Init-IMSI-Detach | <p>When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS.</p> <p>This counter pegs when: VLR-reset indication and a next uplink activity from MS is incremented.</p> |
| Detach Accept | Detach request accept messages statistics. |
| Total-Detach-Acc | Total number of detach request accept messages. |
| Total-MS-Init-Detach-Acc | Total number of MS initiated detach requests accepted. |
| 3G-MS-Init-Detach-Acc | Total number of MS initiated GPRS detach requests accepted for 3G service. |
| 2G-MS-Init-Detach-Acc | Total number of MS initiated IMSI detach requests accepted for 2G service. |

| Field | Description |
|----------------------------|---|
| Total-Nw-Init-Detach-Acc | Total number of network initiated detach requests accepted. |
| 3G-Nw-Init-Detach-Acc | Total number of network initiated detach requests accepted for 3G service. |
| 3G-Nw-Init-GPRS-Detach-Acc | Total number of network initiated GPRS (PS) detach requests accepted for 3G service. |
| 3G-Nw-Init-IMSI-Detach-Acc | Total number of network initiated IMSI (CS) detach request accepted for 3G service. |
| 3G-Nw-Init-Comb-Detach-Acc | Total number of network initiated combined (PS and CS) detach requests accepted for 3G service. |
| 2G-Nw-Init-Detach-Acc | Total number of network initiated detach requests accepted for 2G service. |
| 2G-Nw-Init-GPRS-Detach-Acc | Total number of network initiated GPRS (PS) detach requests accepted for 2G service. |
| 2G-Nw-Init-IMSI-Detach-Acc | Total number of network initiated IMSI (CS) detach requests accepted for 2G service. |
| 2G-Nw-Init-Comb-Detach-Acc | Total number of network initiated combined (PS and CS) detach requests accepted for 2G service. |
| Service Request | Service request messages statistics. |
| Total-Serv-Req | Total number of service request messages. |
| Total-Signalling-Serv-Req | Total signalling service requests messages. |
| 3G-Signalling-Serv-Req | Total signalling service requests messages for 3G service. |
| 2G-Signalling-Serv-Req | Total signalling service requests messages for 2G service. |
| Total-Page-Rsp-Serv-Req | Total paging responses for service requests messages. |
| 3G-Page-Rsp-Serv-Req | Total paging responses for service requests messages for 3G service. |
| 2G-Page-Rsp-Serv-Req | Total paging responses for service requests messages for 2G service. |
| Total-Data-Serv-Req | Total data service requests messages. |
| 3G-Data-Serv-Req | Total data service requests messages for 3G service. |
| 2G-Data-Serv-Req | Total data service requests messages for 2G service. |
| Service Accept | Statistics of accepted service request messages. |
| Total-Serv-Resp | Total service response messages. |

| Field | Description |
|-----------------------|---|
| 3G-Service-Resp | Total service response messages for 3G service. |
| 2G-Service-Resp | Total service response messages for 2G service. |
| Service Reject | Statistics of rejected service request messages. |
| Total-Serv-Rej | Total service rejected messages. |
| 3G-Service-Rej | Total service rejected messages for 3G service. |
| 2G-Service-Rej | Total service rejected messages for 2G service. |
| Paging Initiated | Statistics of paging initiated procedures. |
| Total-Page-Requests | Total paging request messages. |
| 3G-PS-Page-Requests | Total paging request messages in packet switching (PS) domain for 3G service. |
| 3G-CS-Page-Requests | Total paging request messages in circuit switching (CS) domain for 3G service. |
| 2G-PS-Page-Requests | Total paging request messages in packet switching (PS) domain for 2G service. |
| 2G-CS-Page-Requests | Total paging request messages in circuit switching (CS) domain for 2G service. |
| Total-Page-Responses | Total paging request response messages. |
| 3G-PS-Page-Responses | Total paging request response messages in packet switching (PS) domain for 3G service. |
| 3G-CS-Page-Responses | Total paging request response messages in circuit switching (CS) domain for 3G service. |
| 2G-PS-Page-Responses | Total paging request response messages in packet switching (PS) domain for 2G service. |
| 2G-CS-Page-Responses | Total paging request response messages in circuit switching (CS) domain for 2G service. |
| Gmm Status Message | GPRS Mobility Management (GMM) procedure status messages. |
| Total-Gmm-Status-Sent | Total GMM procedure status messages sent. |
| 3G-Gmm-Status-Sent | Total GMM procedure status messages sent for 3G service. |
| 2G-Gmm-Status-Sent | Total GMM procedure status messages sent for 2G service. |
| Total-Gmm-Status-Rcvd | Total GMM procedure status messages received. |
| 3G-Gmm-Status-Rcvd | Total GMM procedure status messages received for 3G service. |

| Field | Description |
|--|--|
| 2G-Gmm-Status-Rcvd | Total GPRS Mobility Management (GMM) procedure status messages received for 2G service. |
| Gmm Information Sent | Statistics of messages sent with GPRS mobility management information. |
| Total-Gmm-Information-Sent | Total messages sent with GMM information. |
| 3G-Gmm-Information-Sent | Total messages sent with GPRS Mobility Management (GMM) information for 3G service. |
| 2G-Gmm-Information-Sent | Total messages sent with GMM information for 2G service. |
| Common Procedures | Statistics of common procedures in GPRS mobility management. |
| Authentication And Ciphering Request | Statistics of authentication and ciphering request messages. |
| Total-Auth-Cipher-Req | Total authentication and ciphering request messages. |
| 3G-Auth-Cipher-Req | Total authentication and ciphering request messages for 3G service. |
| 2G-Auth-Cipher-Req | Total authentication and ciphering request messages for 2G service. |
| Authentication And Ciphering Response | Statistics of authentication and ciphering request response messages |
| Total-Auth-Cipher-Resp | Total authentication and ciphering request response messages. |
| 3G-Auth-Cipher-Resp | Total authentication and ciphering request response messages for 3G service. |
| 2G-Auth-Cipher-Resp | Total authentication and ciphering request response messages for 2G service. |
| Authentication And Ciphering Response With SRES Mismatch | Indicates the statistics of authentication and ciphering request response messages having Signed RESponse (SRES) mismatch. |
| Total-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch. |
| 3G-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 3G service. |
| 2G-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 2G service. |
| Authentication And Ciphering Reject | Statistics of authentication and ciphering request reject messages. |
| Total-Auth-Cipher-Rej | Total authentication and ciphering requests rejected messages. |
| 3G-Auth-Cipher-Rej | Total authentication and ciphering requestsrejected messages for 3G service. |

| Field | Description |
|--------------------------------------|--|
| 2G-Auth-Cipher-Rej | Total authentication and ciphering requests rejected messages for 2G service. |
| Authentication And Ciphering Failure | Statistics of authentication and ciphering request failure messages. |
| Total-Auth-Cipher-Failure | Total authentication and ciphering request failures. |
| 3G-Auth-Cipher-Mac-Failure | Total authentication and ciphering failures due to Message Authentication Code (MAC) for 3G service. |
| 2G-Auth-Cipher-Mac-Failure | Total authentication and ciphering failures due to Message Authentication Code (MAC) for 2G service. |
| 3G-Auth-Cipher-Sync-Failure | Total authentication and ciphering failures due to synchronisation failure for 3G service. |
| 2G-Auth-Cipher-Syn-Failure | Total authentication and ciphering failures due to synchronisation failure for 2G service. |
| 3G-Auth-Unacceptable | Total authentication and ciphering failures due to unacceptable delay for 3G service. |
| 2G-Auth-Unacceptable | Total authentication and ciphering failures due to unacceptable delay for 2G service. |
| P-TMSI Realloc | Statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures. |
| Total-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures. |
| 3G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation procedures for 3G service. |
| 2G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation procedures for 2G service. |
| P-TMSI Realloc Complete | Statistics of completed P-TMSI reallocation procedures. |
| Total-PTMSI Realloc Complete | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed. |
| 3G-PTMSI Realloc Complete | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed for 3G service. |
| 2G-PTMSI Realloc Complete | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed for 2G service. |
| Identity Request | Indicates the statistics of identity request messages. |
| Total-Identity-Req | Total identity request messages. |

| Field | Description |
|----------------------------|--|
| Total-IMSI-Identity-Req | Total international mobile subscriber identity (IMSI) identity request messages. |
| 3G-IMSI-Identity-Req | Total IMSI identity request messages for 3G service. |
| 2G-IMSI-Identity-Req | Total IMSI identity request messages for 2G service. |
| Total-IMEI-Identity-Req | Total International Mobile Equipment Identity (IMEI) request messages. |
| 3G-IMEI-Identity-Req | Total IMEI identity request messages for 3G service. |
| 2G-IMEI-Identity-Req | Total IMEI identity request messages for 2G service. |
| Total-IMEISV-Identity-Req | Total International Mobile Equipment Identity-software version (IMEI-SV) identity request messages. |
| 3G-IMEISV-Identity-Req | Total IMEI-SV identity request messages for 3G service. |
| 2G-IMEISV-Identity-Req | Total IMEI-SV identity request messages for 2G service. |
| Total-(P)TMSI-Identity-Req | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages. |
| 3G-(P)TMSI-Identity-Req | Total P-TMSI identity request messages for 3G service. |
| 2G-(P)TMSI-Identity-Req | Total P-TMSI identity request messages for 2G service. |
| Identity Response | Indicates the statistics of identity request messages. |
| Total-Identity-Rsp | Total identity request response messages. |
| Total-IMSI-Identity-Rsp | Total international mobile subscriber identity (IMSI) identity request response messages. |
| 3G-IMSI-Identity-Rsp | Total IMSI identity request response messages for 3G service. |
| 2G-IMSI-Identity-Rsp | Total IMSI identity request response messages for 2G service. |
| Total-IMEI-Identity-Rsp | Total International Mobile Equipment Identity (IMEI) request response messages. |
| 3G-IMEI-Identity-Rsp | Total IMEI identity request response messages for 3G service. |
| 2G-IMEI-Identity-Rsp | Total IMEI identity request response messages for 2G service. |
| Total-IMEISV-Identity-Rsp | Total International Mobile Equipment Identity-Software Version (IMEI-SV) identity request response messages. |
| 3G-IMEISV-Identity-Rsp | Total IMEI-SV identity request response messages for 3G service. |
| 2G-IMEISV-Identity-Rsp | Total IMEI-SV identity request response messages for 2G service. |

| Field | Description |
|----------------------------|--|
| Total-(P)TMSI-Identity-Rsp | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request response messages. |
| 3G-(P)TMSI-Identity-Rsp | Total P-TMSI identity request response messages for 3G service. |
| 2G-(P)TMSI-Identity-Rsp | Total P-TMSI identity request response messages for 2G service. |
| Total-Unknown-Identity-Rsp | Total identity request response messages for unknown identity. |
| 3G-Unknown-Identity-Rsp | Total identity request response messages for unknown identity for 3G service. |
| 2G-Unknown-Identity-Rsp | Total identity request response messages for unknown identity for 2G service. |
| Timers | Message and procedure timers statistics. |
| Total-T3350-Expiry | Total number of times the T3350 timer timed-out. |
| 3G-T3350-Expiry | Total number of times the T3350 timer timed-out for 3G service. |
| 2G-T3350-Expiry | Total number of times the T3350 timer timed-out for 2G service. |
| Total-T3360-Expiry | Total number of times the T3360 timer timed-out. |
| 3G-T3360-Expiry | Total number of times the T3360 timer timed-out for 3G service. |
| 2G-T3360-Expiry | Total number of times the T3360 timer timed-out for 2G service. |
| Total-T3370-Expiry | Total number of times the T3370 timer timed-out. |
| 3G-T3370-Expiry | Total number of times the T3370 timer timed-out for 3G service. Note This counter is deprecated from release R 16.0 onwards. New counters are introduced to replace this counter. The new counters are based on Identity type. |
| 2G-T3370-Expiry | Total number of times the T3370 timer timed-out for 2G service. Note This counter is deprecated from release R 16.0 onwards. New counters are introduced to replace this counter. The new counters are based on Identity type. |
| 3G-T3370-Expiry-IMSI | Total number of times the T3370 timer timed-out for 3G IMSI identity request. |
| 2G-T3370-Expiry-IMSI | Total number of times the T3370 timer timed-out for 2G IMSI identity request. |
| 3G-T3370-Expiry-IMEI | Total number of times the T3370 timer timed-out for 3G IMEI identity request. |

| Field | Description |
|------------------------|---|
| 2G-T3370-Expiry-IMEI | Total number of times the T3370 timer timed-out for 2G IMEI identity request. |
| 3G-T3370-Expiry-IMEISV | Total number of times the T3370 timer timed-out for 3G IMEISV identity request. |
| 2G-T3370-Expiry-IMEISV | Total number of times the T3370 timer timed-out for 2G IMEISV identity request. |
| 3G-T3370-Expiry-TMSI | Total number of times the T3370 timer timed-out for 3G TMSI identity request. |
| 2G-T3370-Expiry-TMSI | Total number of times the T3370 timer timed-out for 2G TMSI identity request. |
| 3G-T3370-Expiry-Other | Total number of times the T3370 timer timed-out for 3G identity request for unknown reason. |
| 2G-T3370-Expiry-Other | Total number of times the T3370 timer timed-out for 2G identity request for unknown reason. |
| Total-T3322-Expiry | Total number of times the T3322 timer timed-out. |
| 3G-T3322-Expiry | Total number of times the T3322 timer timed-out for 3G service. |
| 2G-T3322-Expiry | Total number of times the T3322 timer timed-out for 2G service. |
| Total-T3313-Expiry | Total number of times the T3313 timer timed-out. |
| 3G-T3313-Expiry | Total number of times the T3313 timer timed-out for 3G service. |
| 2G-T3313-Expiry | Total number of times the T3313 timer timed-out for 2G service. |
| Ranap Procedures | Indicates the statistics of Radio Access Network Application Part (RANAP) procedures. |
| Initial UE Rcvd | Total number of initial User Equipment (UE) messages received. |
| Common Id sent | Total number of common identifier messages sent. |
| Direct Transfer Sent | Total number of direct transfer messages sent. |
| Direct Transfer Rcvd | Total number of direct transfer messages received. |
| Security Mode Command | Total number of security mode commands received. |
| Security Mode Complete | Total number of security mode completed. |
| Security Mode Reject | Total number of security mode commands rejected. |
| Iu Release Request | Total number of Iu interface release request received. |
| Iu Release Command | Total number of Iu interface release commands received. |

| Field | Description |
|--------------------------|--|
| Iu Release Complete | Total number of Iu interface release completed. |
| Reset Rcvd | Total number of reset requests received. |
| Retransmitted Reset Rcvd | Total number of retransmitted reset requests received. |
| Reset Ack Sent | Total number of reset request acknowledgement sent. |
| Reset Sent | Total number of reset requests sent. |
| Retransmitted Reset Sent | Total number of reset requests retransmitted. |
| Reset Ack Rcvd | Total number of reset request acknowledgements received. |
| Resource Reset Rcvd | Total number of resource reset requests received. |
| Resource Reset Dropped | Total number of resource reset requests dropped as a result of throttling mechanism which handles flurries of such messages to the MMgr. |
| Resource Reset Ack Sent | Total number of resource reset request acknowledgements sent. |
| Resource Reset Sent | Total number of resource reset requests sent. |
| Resource Reset Ack Rcvd | Total number of resource reset request acknowledgements received. |
| Overload ctrl Rcvd | Total number of resource overload control messages received. |
| PC Congested Received | Total number of Point Code (PC) congested messages received. |
| Error Indication Rcvd | Total number of error indication messages received. |
| Error Indication Sent | Total number of error indication messages sent. |
| Relocation Required | Total number of messages received for Serving Radio Network Subsystem (SRNS) relocation required. |
| Relocation Command | Total number of messages received with SRNS relocation command. |
| Relocation Request | Total number of SRNS relocation requests received. |
| Relocation Request Ack | Total number of SRNS relocation requests Ack sent. |
| Relocation Failure | Total number of SRNS relocation failure messages received. |
| Relocation Prep Failure | Total number of SRNS relocation preparation failure messages received. |
| Relocation Cancel | Total number of SRNS relocation cancel messages received. |
| Relocation Cancel Ack | Total number of SRNS relocation cancel acknowledge messages sent. |

| Field | Description |
|---------------------------|---|
| Relocation Detect | Total number of SRNS relocation detected. |
| Relocation Complete | Total number of SRNS relocation completed. |
| Forward SRNS Context | Total number of SRNS contexts forwarded. |
| NAS-PDU Stats | Protocol Data Units (PDUs) for Network Access Server (NAS) statistics. |
| Received | Indicates the total all type of PDUs received through NAS interface. |
| Sent | Indicates the total all type of PDUs sent through NAS interface. |
| Total-Received-NAS-Pdu | Total all type of Protocol Data Units received through NAS interface. |
| Total-Sent-NAS-Pdu | Total all type of PDUs sent through NAS interface. |
| GMM-Received-NAS-Pdu | Total PDUs received by GPRS mobility management (GMM) service through NAS interface. |
| GMM-Sent-NAS-Pdu | Total PDUs sent by GMM service through NAS interface. |
| SM-Received-NAS-Pdu | Total PDUs received by Service Management (SM) service through NAS interface. |
| SM-Sent-NAS-Pdu | Total PDUs sent by SM service through NAS interface. |
| UnIdentified-NAS-Pdu | Total number of unknown type PDUs received through NAS interface. |
| Dropped NAS-PDUS | Statistics of Protocol Data Units (PDUs) dropped through NAS interface. |
| Total-Dropped-NAS-Pdu | Total number of PDUs dropped through NAS interface. |
| Redirection Indication | Indicates the causes for redirection indication. |
| PLMN not allowed | <p>The Attach/RAU Reject message is sent with GMM cause -PLMN not allowed" or any other values not specifically mapped to the other causes.</p> <p>This counter pegs when: Attach-reject/RAU-reject is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.</p> |
| Location area not allowed | <p>The Attach/RAU Reject message is sent with GMM cause -Location Area not allowed.</p> <p>This counter pegs when: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.</p> |

| Field | Description |
|---|---|
| Roaming not allowed in LA | The Attach/RAU Reject message is sent with GMM cause - Roaming not allowed in this location area. This counter pegs when: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause. |
| No GPRS services in PLMN | The Attach/RAU Reject message is sent with GMM cause -GPRS services not allowed in this PLMN. This counter pegs when: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause. |
| CS/PS co-ord required | SGSN while interacting with the IMSI of the MS, rejects the MS to facilitate the RNC to choose the right CN operator. This counter pegs when: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause. |
| Unknown Reasons | The RANAP message is sent with none of the valid cause values. If the value is non-zero, it reflects an error in SGSN software. This counter pegs when: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause. |
| SMS Error Stats | Statistics of errors related to Short Message Service (SMS). |
| CP-ERROR (Tx) | Total number of control program errors sent (in upload direction) for short message service (SMS). |
| Network Overload Protection | |
| Attach requests queued in the pacing queue | Total number of Attach Request messages in the pacing queue waiting to be processed. |
| Inter SGSN RAU requests queued in the pacing queue | Total number of Inter SGSN RAU Request messages that have been buffered in the pacing queue. |
| Number of Inter SGSN RAU and Attach requests in the pacing queue | Total number of Attach Request messages and Inter SGSN Routing Area Update (RAU) Request messages that have been buffered in the pacing queue. |
| Attach requests successfully dequeued from the pacing queue | Total number of Attach Request messages that have been successfully removed from the pacing queue to be sent to the Session Manager for further processing. |
| Inter SGSN RAU requests successfully dequeued from the pacing queue | Total number of Inter SGSN RAU Request messages that have successfully been removed from the pacing queue and sent to the Session Manager for further processing. |

| Field | Description |
|---|--|
| Attaches rejected | Total number of Attach Request messages that were rejected due to a network overload situation. |
| Inter SGSN RAUs rejected | Total number of Inter SGSN RAU Request messages that were rejected due to a network overload situation. |
| Attaches dropped | Total number of Attaches that were dropped due to a network overload situation. |
| Inter SGSN RAUs dropped | Total number of Inter SGSN RAU Request messages that were dropped due to a network overload situation. |
| Attaches discarded due to excess wait time in the pacing queue | Total number of Attach Request messages that were discarded because the requests waited in the pacing queue for more than the t3310 timer value, which would have resulted in a timeout at the MS. |
| Inter SGSN RAUs discarded due to excess wait time in the pacing queue | Total number of Inter SGSN RAU messages that were discarded from the pacing queue as the requests waited more than the t3315 timer value, which would have resulted in a timeout at the MS. |
| Number of valid packets processed in the last sec | Total number of valid packets processed in the last second. |
| Number of packets in Q in the last tick | Total number of packets in the queue in the last tick. |
| Packets to be dequeued in the last tick | Total number of packets dequeued in the last tick. |
| Number of new requests processed from the pacing queue in the last tick | Total number of new requests processed from the pacing queue in the last tick. |
| Number of requests dropped from the pacing queue in the last tick | Total number of requests dropped from the pacing queue in the last tick. |
| Average Number of requests processed per min (1 min) | The average number of requests processed per minute. |
| Average Number of requests processed per min (5 min) | The average number of requests processed per minute. |
| Average Number of requests processed per min (10 min) | The average number of requests processed per minute. |
| Session Management Messages Statistics | |
| Activate Context Request | Statistics related to active context request in Session Management (SM) service. |
| Total-Actv-Request | Total number of request messages received for 2G and 3G context activation including primary and secondary contexts. |
| 3G-Actv-Request | Total number of request messages received for 3G context activation including primary and secondary contexts. |
| 2G-Actv Request | Total number of request messages received for 2G context activation including primary and secondary contexts. |

| Field | Description |
|---------------------------|--|
| Primary-Actv-Request | Total number of request messages received for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Request | Total number of request messages received for 3G primary context activation. |
| 2G-Primary-Actv-Request | Total number of request messages received for 2G primary context activation. |
| Secondary-Actv-Request | Total number of request messages received for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Request | Total number of request messages received for 3G secondary context activation. |
| 2G-Secondary-Actv-Request | Total number of request messages received for 2G secondary context activation. |
| Activate Context Accept | Statistics related to active context requests accepted in Session Management service. |
| Total-Actv-Accept | Total number of request messages accepted for 2G and 3G context activation including primary and secondary type of context. |
| 3G-Actv-Accept | Total number of request messages accepted for 3G context activation including primary and secondary type of context. |
| 2G-Actv Accept | Total number of request messages accepted for 2G context activation including primary and secondary type of context. |
| Primary-Actv-Accept | Total number of request messages accepted for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Accept | Total number of request messages accepted for 3G primary context activation. |
| 2G-Primary-Actv-Accept | Total number of request messages accepted for 2G primary context activation. |
| Secondary-Actv-Accept | Total number of request messages accepted for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Accept | Total number of request messages accepted for 3G secondary context activation. |
| 2G-Secondary-Actv-Accept | Total number of request messages accepted for 2G secondary context activation. |
| Activate Context Reject | Statistics of request messages rejected for 2G and 3G context activation including primary and secondary type of contexts. |
| Total-Actv-Reject | Total number of request messages rejected for 2G and 3G context activation including primary and secondary type of contexts. |

| Field | Description |
|---------------------------|---|
| 3G-Actv-Reject | Total number of request messages rejected for 3G context activation including primary and secondary type of contexts. |
| 2G-Actv-Reject | Total number of request messages rejected for 2G context activation including primary and secondary type of contexts. |
| Primary-Actv-Reject | Total number of request messages rejected for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Reject | Total number of request messages rejected for 3G primary context activation. |
| 2G-Primary-Actv-Reject | Total number of request messages rejected for 2G primary context activation. |
| Secondary-Actv-Reject | Total number of request messages rejected for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Reject | Total number of request messages rejected for 3G secondary context activation. |
| 2G-Secondary-Actv-Reject | Total number of request messages rejected for 2G secondary context activation. |
| Actv-Reject-Nrspca | Total number of request messages rejected for Network Requested Secondary PDP Context Activation. |
| 3G-Actv-Reject-Nrspca | Total number of NRSPCA request messages rejected for 3G secondary context activation. |
| Activate Context Failure | |
| Total-Actv-Failure | Total number of context activation failures for 2G and 3G services, including primary and secondary types. |
| 3G-Actv-Failure | Total number of context activation failures for 3G services. |
| 2G-Actv Failure | Total number of context activation failures for 2G services. |
| Primary-Actv-Failure | Total number of failed primary context activations for 2G and 3G service. |
| 3G-Primary-Actv-Failure | Total number of failed primary context activations for 3G service. |
| 2G-Primary-Actv-Failure | Total number of failed primary context activations for 2G service. |
| Secondary-Actv-Failure | Total number of failed secondary context activations for 2G and 3G service. |
| 3G-Secondary-Actv-Failure | Total number of failed secondary context activations for 3G service . |

| Field | Description |
|------------------------------------|---|
| 2G-Secondary-Actv-Failure | Total number of failed secondary context activations for 2G and 3G service . |
| Duplicate Activate Request | Statistics of duplicate context activation requests for 2G and 3G service received. |
| Total-Dup-Actv Req Received | Total number of duplicate context activation requests for 2G and 3G service received. |
| Total-Dup-3G-Actv Req Received | Total number of duplicate context activation requests for 3G service received. |
| 3G-Dup Req In PDP-ACTIVE State | Statistics of duplicate context activation requests for 3G service in PDP activate state. |
| Duplicate TI | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Transaction Identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI) for 3G service. |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate PDP address and access point name for 3G service. |
| Total-Dup-2G-Actv Req Received | Total number of duplicate context activation requests for 2G service received. |
| 2G-Dup Req In PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 2G service in PDP activate state. |
| Duplicate TI | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Transaction Identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate PDP address and access point name. |
| 3G-Dup Req In NOT PDP-ACTIVE State | Statistics of duplicate context activation requests for 3G service which are not in PDP active state. |
| Duplicate TI | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate transaction identifiers (TIs). |

| Field | Description |
|---------------------------------------|--|
| Duplicate NSAPI | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate PDP address and access point name. |
| 2G-Dup Req In NOT PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 2G service which are not in PDP active state. |
| Duplicate TI | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate transaction identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate PDP address and access point name. |
| Request Pdp Context Activation | Indicates the statistics of PDP context activation requests for 2G and 3G service. |
| Total-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 2G and 3G service. |
| 3G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 3G service. |
| 2G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 2G service. |
| Request Pdp Context Activation Reject | Indicates the statistics of PDP context activation requests rejected for 2G and 3G service. |
| Total-Request-Pdp-Ctxt-Req Reject | Total number of PDP context activation requests rejected for 2G and 3G service. |
| 3G-Request-Pdp-Ctxt-Req Reject | Total number of PDP context activation requests rejected for 3G service. |
| 2G-Request-Pdp-Ctxt-Req Reject | Total number of PDP context activation requests rejected for 2G service. |
| Modify Context Request | Statistics of MS and network initiated PDP context modification requests received for 2G and 3G service. |
| Total-Modify-Request | Total number of MS and network initiated PDP context modification requests received for 2G and 3G service. |

| Field | Description |
|-----------------------|--|
| 3G-Modify-Request | Total number of MS and network initiated PDP context modification requests received for 3G service. |
| 2G-Modify Request | Total number of MS and network initiated PDP context modification requests received for 2G service. |
| MS-Modify-Request | Total number of MS initiated PDP context modification requests received for 2G and 3G service. |
| 3G-MS-Modify-Request | Total number of MS initiated PDP context modification requests received for 3G service. |
| 2G-MS-Modify-Request | Total number of MS initiated PDP context modification requests received for 2G service. |
| NW-Modify-Request | Total number of network initiated PDP context modification requests received for 2G and 3G service. |
| 3G-NW-Modify-Request | Total number of network initiated PDP context modification requests received for 3G service. |
| 2G-NW-Modify-Request | Total number of network initiated PDP context modification requests received for 2G service. |
| Modify Context Accept | Statistics of MS and network initiated PDP context modification requests accepted for 2G and 3G service. |
| Total-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 3G service. |
| 2G-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 2G service. |
| MS-Modify-Accept | Total number of MS initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-MS-Modify-Accept | Total number of MS initiated PDP context modification requests accepted for 3G service. |
| 2G-MS-Modify-Accept | Total number of MS initiated PDP context modification requests accepted for 2G service. |
| NW-Modify-Accept | Total number of network initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-NW-Modify-Accept | Total number of network initiated PDP context modification requests received for 3G service. |
| 2G-NW-Modify-Accept | Total number of network initiated PDP context modification requests accepted for 2G service. |

| Field | Description |
|----------------------------|--|
| Modify Context Reject | Indicates the statistics of MS and network initiated PDP context modification requests rejected for 2G and 3G service. |
| Total-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 3G service. |
| 2G-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 2G service. |
| MS-Modify-Reject | Total number of MS initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-MS-Modify-Reject | Total number of MS initiated PDP context modification requests rejected for 3G service. |
| 2G-MS-Modify-Reject | Total number of MS initiated PDP context modification requests rejected for 2G service. |
| NW-Modify-Reject | Total number of network initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-NW-Modify-Reject | Total number of network initiated PDP context modification requests rejected for 3G service. |
| 2G-NW-Modify-Reject | Total number of network initiated PDP context modification requests rejected for 2G service. |
| Deactivate Context Request | Statistics of MS and network initiated PDP context deactivation requests received for 2G and 3G service. |
| Total-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 3G service. |
| 2G-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 2G service. |
| MS-Deactv-Request | Total number of MS initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-MS-Deactv-Request | Total number of MS initiated PDP context deactivation requests received for 3G service. |
| 2G-MS-Deactv-Request | Total number of MS initiated PDP context deactivation requests received for 2G service. |
| NW-Deactv-Request | Total number of network initiated PDP context deactivation requests received for 2G and 3G service. |

| Field | Description |
|---------------------------|--|
| 3G-NW-Deactiv-Request | Total number of network initiated PDP context deactivation requests received for 3G service. |
| 2G-NW-Deactiv-Request | Total number of network initiated PDP context deactivation requests received for 2G service. |
| Deactivate Context Accept | Statistics of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service. |
| Total-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 3G service. |
| 2G-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 2G service. |
| MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 3G service. |
| 2G-MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 2G service. |
| NW-Deactiv-Accept | Total number of network initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-NW-Deactiv-Accept | Total number of network initiated PDP context deactivation requests accepted for 3G service. |
| 2G-NW-Deactiv-Accept | Total number of network initiated PDP context deactivation requests accepted for 2G service. |
| SM Status Messages | Indicates the statistics of the service manager status messages for 2G and 3G service. |
| Total-SM-Status-Sent | Total number of service manager status messages sent for 2G and 3G service. |
| 3G-SM-Status-Sent | Total number of service manager status messages sent for 3G service. |
| 2G-SM-Status-Sent | Total number of service manager status messages sent for 2G service. |
| Total-SM-Status-Rcvd | Total number of service manager status messages received for 2G and 3G service. |
| 3G-SM-Status-Rcvd | Total number of service manager status messages received for 3G service. |

| Field | Description |
|-----------------------------|---|
| 2G-SM-Status-Rcvd | Total number of service manager status messages received for 2G service. |
| RNC Initiated RAB Messages | Statistics of the Radio Network Controller (RNC) initiated Radio Access Bearer (RAB) messages for 2G and 3G service. |
| Total Rab Mod Requested | Total number of requests for Radio Access Bearer (RAB) modification initiated by Radio Network Controller (RNC). |
| Num Rab Mod | Total number of RABs modified on request for modification initiated by RNC. |
| Total Rab Rel Requested | Total number of requests for RAB release initiated by RNC. |
| Num Rab Rel | Total number of RABs modified on request for release initiated by RNC. |
| SGSN Initiated RAB Messages | Indicates the statistics of the SGSN initiated radio access bearer (RAB) messages for 2G and 3G service. |
| Total Rab Assign Requested | Total number of SGSN initiated RAB assign requests messages received. |
| Total Rab Assign Rsp Rcvd | Total number of SGSN initiated RAB assign response messages received. |
| Rab Setup/Mod Attempted | Total number of SGSN initiated setup and modification attempted for RAB. |
| Rab Setup/Mod Accepted | Total number of SGSN initiated setup and modifications accepted for RAB. |
| Rab Setup Attempted | This proprietary counter tracks the number of RAB Setup Request messages initiated by the SGSN. |
| Rab Setup Accepted | This proprietary counter tracks the number of successful RAB Setup Request messages. The SGSN initiates RAB Setup Request towards the RNC to setup a RAB. |
| Rab Modify Attempted | This proprietary counter tracks the number of RAB Modify Request messages initiated by the SGSN. |
| Rab Modify Accepted | This proprietary counter tracks the number of successful RAB Modify Request messages. The SGSN initiates RAB Modify Request towards the RNC to modify a RAB |
| Rab Setup/Mod Timer Expired | Total number of SGSN initiated RAB setup and modification events where procedure timer was exhausted. |
| Rab Setup/Mod Failed | Total number of SGSN initiated RAB setup and modification events failed. |

| Field | Description |
|---------------------------------|--|
| Rab Setup Timer Expired | This proprietary counter tracks the number of RAB Setup Request messages that timeout. The SGSN initiates RAB Setup Request towards the RNC and starts a timer. When no response is received within a certain time, the SGSN performs an action appropriate to the procedure – during activation, the SGSN sends Activation Reject. For other procedures, the PDP context is preserved. |
| Rab Setup Failed | This proprietary counter tracks the number of unsuccessful RAB Setup Request messages. The SGSN initiates RAB Setup Request towards the RNC to setup a RAB. |
| Rab Modify Timer Expired | This proprietary counter tracks the number of RAB Modify Request messages that timeout. The SGSN initiates RAB Modify Request towards the RNC and starts a timer. When no response is received within a certain time, the SGSN performs an action appropriate to the procedure – during activation, the SGSN sends Activation Reject. For other procedures, the PDP context is preserved. |
| Rab Modify Failed | This proprietary counter tracks the number of unsuccessful RAB Modify Request messages. The SGSN initiates RAB Modify Request towards the RNC to modify a RAB. |
| Rab Rel Attempted | Total number of SGSN initiated RAB release procedure attempted. |
| Rab Rel Accepted | Total number of SGSN initiated RAB release procedure accepted. |
| Rab Rel Timer Expired | Total number of SGSN initiated RAB release procedure where procedure timer exhausted. |
| Rab Rel Failed | Total number of SGSN initiated RAB release procedure failed. |
| Rab Queued | Total number of SGSN initiated RAB messages in queue. |
| Rab Setup Reattempted (Diff IP) | Total number of SGSN initiated RAB setup reattempted with different IP address. |
| Total Set/Mod/Rel Rab Rejected | Total number of SGSN initiated RAB setup, modification/release rejected. |
| SRNS Context Transfer Messages | Statistics of SGSN Radio Network Subsystem (SRNS) context transfer messages. |
| SRNS Context Req Send | Total number of SRNS context transfer request messages sent. |
| SRNS Context Rsp Rcvd | Total number of SGSN Radio Network Subsystem (SRNS) context transfer response messages received. |
| SRNS Context Req Timer Expired | Total number of events when timer exhausted for SRNS context transfer request messages. |

| Field | Description |
|-------------------------|--|
| Total PDP-Ctxt Accepted | Total number of PDP context accepted for SRNS. |
| Total PDP-Ctxt Rejected | Total number of PDP context rejected for SRNS. |
| SRNS Data Fwd Cmd Send | Total number of SRNS data forward commands sent. |

show gmm-sm statistics verbose

Table 271: show gmm-sm statistics verbose Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Session Statistics | |
| Attached Subscribers | Statistics for attached subscribers. |
| Total Attached | Total subscribers attached for 2G and 3G. |
| 3G Attached | Total subscribers attached for 3G only. |
| 2G Attached | Total subscribers attached for 3G only. |
| Home Subscribers | Statistics for attached home subscribers. |
| Total Home | Total home subscribers attached for 2G and 3G. |
| 3G Home | Total home subscribers attached for 3G only. |
| 2G Home | Total home subscribers attached for 3G only. |
| Visiting National Subscribers | Statistics for attached visiting national subscribers. |
| Total-Visiting-National | Total visiting national subscribers attached for 2G and 3G. |
| 3G-Visiting-National | Total visiting national subscribers attached for 3G only. |
| 2G-Visiting-National | Total visiting national subscribers attached for 3G only. |
| Visiting Foreign Subscribers | Statistics for attached visiting foreign subscribers. |
| Total-Visiting-Foreign | Total visiting foreign subscribers attached for 2G and 3G. |
| 3G-Visiting-Foreign | Total visiting foreign subscribers attached for 3G only. |
| 2G-Visiting-Foreign | Total visiting foreign subscribers attached for 2G only. |
| Network Sharing Subscribers | Statistics for network sharing subscribers. |

| Field | Description |
|---------------------------------------|--|
| 3G-Supporting-UE | Total number of 3G Network Sharing Supporting User Equipment currently in the system. This counter pegs when: Increments when a network sharing supporting UE connects with the 3G SGSN. |
| 3G-Non-Supporting-UE | Total number of 3G Network Sharing Non Supporting User Equipment currently in the system. This counter pegs when: A network sharing non-supporting UE connects with the 3G SGSN. |
| Subscribers in PMM-REGISTERED state | Total subscribers in Packet Mobility Management-registered (PMM-REGISTERED) state, including connected and idle. |
| PMM-CONNECTED | Total subscribers in PMM connected state. |
| PMM-IDLE | Total subscribers in PMM idle state. |
| Subscribers in GPRS-CONNECTED state | Total number of subscribers in GPRS-CONNECTED state. It is a Gauge type of counter. |
| GPRS-STANDBY | Total number of subscribers in GPRS-STANDBY state. It is a Gauge type of counter. |
| GPRS-READY | Total number of subscribers in GPRS-READY state. It is a Gauge type of counter. |
| Activated Subscribers | Statistics of activated subscribers. |
| Total Activated | Total number of activated 2G and 3G subscribers. |
| 3G Activated | Total number of activated 3G subscribers only. |
| 2G Activated | Total number of activated 2G subscribers only. |
| Activate PDP Contexts | Statistics of activated PDP contexts. |
| Total Actv PDP Ctx | Total number of activated 2G and 3G PDP contexts. |
| 3G-Actv Pdp Ctx | Total number of activated 3G PDP contexts only. |
| 2G-Actv Pdp Ctx | Total number of activated 2G PDP contexts only. |
| Total Actv Pdp Ctx with Direct Tunnel | Total number of activated PDP contexts through direct tunnel. |
| Message Statistics | Statistics of messages. |
| Specific Procedures | Indicates the statistics related to specific procedures. |
| Attach Request | Total number of messages for Attach Request. |
| Total-Attach | Statistics of total attach messages. |

| Field | Description |
|------------------------|---|
| IMSI | Indicates the statistics of total attach through international mobile subscriber identity (IMSI). |
| Total-IMSI-Attach | Total international mobile subscriber identity (IMSI) attach including 2G and 3G. |
| 3G-IMSI-Attach | 3G-IMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 3G-IMSI attach with GPRS only access. |
| Combined Attached | Total 3G-IMSI attach with combined (PS and CS) access. |
| 2G-IMSI-Attach | 2G-IMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 2G-IMSI attach with GPRS only access. |
| Combined Attached | Total 2G-IMSI attach with combined (PS and CS) access. |
| PTMSI | Statistics of total attach through Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Total-PTMSI-Attach | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G. |
| 3G-PTMSI-Attach | 3G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 3G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total 3G-P-TMSI attach with combined (PS and CS) access. |
| 2G-PTMSI-Attach | Indicates the 2G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 2G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total 2G-P-TMSI attach with combined (PS and CS) access. |
| Local-PTMSI | Statistics of total attach through local Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Total-loc-PTMSI-Attach | Total local Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G. |
| 3G-loc-PTMSI-Attach | Local 3G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total local 3G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total local 3G-P-TMSI attach with combined (PS and CS) access. |
| 2G-loc-PTMSI-Attach | Indicates the local 2G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total local 2G-P-TMSI attach with GPRS only access. |

| Field | Description |
|-------------------------|---|
| Combined Attached | Total local 2G-P-TMSI attach with combined (PS and CS) access. |
| Remote-PTMSI | Statistics of total attach through remote Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Total-remo-PTMSI-Attach | Total remote Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G. |
| 3G-remote-PTMSI-Attach | 3G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total remote 3G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total remote 3G-P-TMSI attach with combined (PS and CS) access. |
| 2G-remote-PTMSI-Attach | Remote 2G-P-TMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total remote 2G-P-TMSI attach with GPRS only access. |
| Combined Attached | Total remote 2G-P-TMSI attach with combined (PS and CS) access. |
| Retransmission | Statistics of retransmitted messages. |
| Ret-Total-Attach | Statistics of total retransmitted attach requests. |
| IMSI | Statistics of total attach through retransmitted International Mobile Subscriber Identity (IMSI) . |
| Ret-Total-IMSI-Attach | Total IMSI attach including retransmitted 2G and 3G . |
| Ret-3G-IMSI-Attach | 3G-IMSI attach statistics for retransmitted GPRS and non-GPRS. |
| GPRS-only Attached | Total 3G-IMSI attach retransmitted with GPRS only access . |
| Combined Attached | Total 3G-IMSI attach with combined (PS and CS) access messages. |
| Ret-2G-IMSI-Attach | Indicates the retransmitted 2G-IMSI attach statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total 2G-IMSI attach retransmitted with GPRS only access . |
| Combined Attached | Total 2G-IMSI attach retransmitted with combined (PS and CS) access . |
| PTMSI | Statistics of total attach through retransmitted Packet-Temporary Mobile Subscriber Identity (P-TMSI) . |
| Ret-Total-PTMSI-Attach | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attachretransmitted including 2G and 3G. |
| Ret-3G-PTMSI-Attach | 3G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS . |

| Field | Description |
|-----------------------------|---|
| GPRS-only Attached | Total 3G-P-TMSI attach retransmitted with GPRS only access. |
| Combined Attached | Total 3G-P-TMSI attach retransmitted with combined (PS and CS) access . |
| Ret-2G-PTMSI-Attach | 2G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS . |
| GPRS-only Attached | Total 2G-P-TMSI attach retransmitted with GPRS only access . |
| Combined Attached | Total 2G-P-TMSI attach with combined (PS and CS) access retransmitted. |
| Local-PTMSI | Statistics of total attach through retransmitted local Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Ret-Total-loc-PTMSI-Attach | Total retransmitted local Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G. |
| Ret-3G-loc-PTMSI-Attach | Local 3G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS. |
| GPRS-only Attached | Total local 3G-P-TMSI attach retransmitted with GPRS only access . |
| Combined Attached | Total local 3G-P-TMSI attach retransmitted with combined (PS and CS) access . |
| Ret-2G-loc-PTMSI-Attach | Statistics for local 2G-P-TMSI attach retransmitted for GPRS and non-GPRS . |
| GPRS-only Attached | Total local 2G-P-TMSI attach retransmitted with GPRS only access . |
| Combined Attached | Total local 2G-P-TMSI attach retransmitted with combined (PS and CS) access. |
| Remote-PTMSI | Statistics of total attach through retransmitted remote Packet-Temporary Mobile Subscriber Identity (P-TMSI). |
| Ret-Total-remo-PTMSI-Attach | Total remote Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach retransmitted for 2G and 3G . |
| Ret-3G-remote-PTMSI-Attach | Statistics for remote 3G-P-TMSI attach for GPRS and non-GPRS retransmitted. |
| GPRS-only Attached | Total remote 3G-P-TMSI attach with GPRS only access retransmitted. |
| Combined Attached | Total remote 3G-P-TMSI attach with combined (PS and CS) access retransmitted. |

| Field | Description |
|----------------------------|---|
| Ret-2G-remote-PTMSI-Attach | Indicates the remote 2G-P-TMSI attach statistics for GPRS and non-GPRS retransmitted. |
| GPRS-only Attached | Total remote 2G-P-TMSI attach with GPRS only access retransmitted. |
| Combined Attached | Total remote 2G-P-TMSI attach with combined (PS and CS) access retransmitted. |
| Attach Accept | Indicates the statistics of total attach accepts. |
| Total-Attach-Accept | Total attach accepts including 2G and 3G. |
| 3G-Attach-Accept | Indicates the 3G-attach accept statistics for GPRS and non-GPRS. |
| Gprs-Attached | Total 3G-attach accepts with GPRS only access. |
| Comb-Attached | Total 3G-attach accepts with combined (PS and CS) access. |
| 2G-Attach-Accept | Indicates the 2G-attach accept statistics for GPRS and non-GPRS. |
| Gprs-Attached | Total 2G-attach accepts with GPRS only access. |
| Comb-Attached | Total 2G-attach accepts with combined (PS and CS) access. |
| Retransmission | Indicates the statistics of total attach accepts retransmitted. |
| Ret-Total-Attach-Accept | Total attach accepts including 2G and 3G retransmitted. |
| Ret-3G-Attach-Accept | Indicates the 3G-attach accept retransmitted statistics for GPRS and non-GPRS. |
| Gprs-Attached | Total 3G-attach accepts with GPRS only access retransmitted. |
| Comb-Attached | Total 3G-attach accepts with combined (PS and CS) access retransmitted. |
| Ret-2G-Attach-Accept | Indicates the 2G-attach accept statistics for GPRS and non-GPRS retransmitted. |
| Gprs-Attached | Total 2G-attach accepts with GPRS only access retransmitted. |
| Comb-Attached | Total 2G-attach accepts with combined (PS and CS) access retransmitted. |
| Attach Complete | Indicates the statistics of total attach completed. |
| Total-Attach-Complete | Total attach completed including 2G and 3G. |
| 3G-Attach-Complete | Indicates the 3G-attach complete statistics for GPRS and non-GPRS. |
| 2G-Attach-Complete | Total 3G-attach completed with GPRS only access. |

| Field | Description |
|--|--|
| Attach Reject | Total 3G-attach completed with combined (PS and CS) access. |
| Total-Attach-Reject | Indicates the 2G-attach complete statistics for GPRS and non-GPRS. |
| 3G-Attach-Reject | Total 2G-attach completed with GPRS only access. |
| 2G-Attach-Reject | Total 2G-attach completed with combined (PS and CS) access. |
| Gprs-Attach Reject Causes | Indicates the statistics of causes for GPRS attach rejected for 2G and 3G service. |
| 3G-IMSI Unknown in HLR | Total number of GPRS attach rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of GPRS attach rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of GPRS attach rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of GPRS attach rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of GPRS attach rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of GPRS attach rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of GPRS attach rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of GPRS attach rejected for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS and Non-GPRS service not allowed | Total number of GPRS attach rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of GPRS attach rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MsId not derived by Nw | Total number of GPRS attach rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MsId not derived by Nw | Total number of GPRS attach rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of GPRS attach rejected for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of GPRS attach rejected for 2G service due to implicitly detach. |

| Field | Description |
|--|---|
| 3G-PLMN not allowed | Total number of GPRS attach rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of GPRS attach rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of GPRS attach rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of GPRS attach rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of GPRS attach rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of GPRS attach rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of GPRS attach rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of GPRS attach rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of GPRS attach rejected for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of GPRS attach rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of GPRS attach rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of GPRS attach rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of GPRS attach rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of GPRS attach rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of GPRS attach rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of GPRS attach rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of GPRS attach rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of GPRS attach rejected for 2G service due to context synchronization failure. |

| Field | Description |
|--|---|
| 3G-Congestion | Total number of GPRS attach rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of GPRS attach rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of GPRS attach rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of GPRS attach rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of GPRS attach rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of GPRS attach rejected for 2G service as PDP context is not activated. |
| 3G-Retry from new cell | Total number of GPRS attach rejected for 3G service as PDP context activation was tried from new mobile cell. |
| 2G-Retry from new cell | Total number of GPRS attach rejected for 2G service as PDP context activation was tried from new mobile cell. |
| 3G-Semantically Wrong Msg | Total number of GPRS attach rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrong Msg | Total number of GPRS attach rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of GPRS attach rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of GPRS attach rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of GPRS attach rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of GPRS attach rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of GPRS attach rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of GPRS attach rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of GPRS attach rejected for 3G service rejected due to non-existence of information element. |
| 2G-IE Non Existent | Total number of GPRS attach rejected for 2G service rejected due to non-existence of information element. |

| Field | Description |
|---|--|
| 3G-Conditional IE Error | Total number of GPRS attach rejected for 3G service due to error in conditional information element. |
| 2G-conditional IE Error | Total number of GPRS attach rejected for 2G service due to error in conditional information element. |
| 3G-Message not compatible with protocol state | Total number of GPRS attach rejected for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of GPRS attach rejected for 2G service as message is not compatible with protocol state. |
| 3G-protocol Error | Total number of GPRS attach rejected for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of GPRS attach rejected for 2G service due to protocol error in message. |
| 3G-Unknown cause | Total number of GPRS attach rejected for 3G service where cause is unknown or not specified here. |
| 2G-Unknown cause | Total number of GPRS attach rejected for 2G service where cause is unknown or not specified here. |
| Comb-Attach Reject Causes | Indicates the statistics of causes for combined GPRS (PS and CS) attach rejected for 2G and 3G service. |
| 3G-IMSI Unknown in HLR | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS service not allowed for subscriber. |

| Field | Description |
|--|--|
| 3G-GPRS and Non-GPRS service not allowed | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSId not derived by Nw | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to non availability of suitable cell in specific location area. |

| Field | Description |
|------------------------------|--|
| 3G-MSC not reachable | Total number of combined GPRS (PS and CS) attach rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of combined GPRS (PS and CS) attach rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of combined GPRS (PS and CS) attach rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of combined GPRS (PS and CS) attach rejected for 2G service as PDP context is not activated. |
| 3G-Retry from new cell | Total number of combined GPRS (PS and CS) attach rejected for 3G service as PDP context activation was tried from new mobile cell. |
| 2G-Retry from new cell | Total number of combined GPRS (PS and CS) attach rejected for 2G service as PDP context activation was tried from new mobile cell. |
| 3G-Semantically Wrong Msg | Total number of combined GPRS (PS and CS) attach rejected for 3G service as attach request message is semantically wrong. |

| Field | Description |
|--|--|
| 2G-Semantically Wrong Msg | Total number of combined GPRS (PS and CS) attach rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of combined GPRS (PS and CS) attach rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of combined GPRS (PS and CS) attach rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of combined GPRS (PS and CS) attach rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of combined GPRS (PS and CS) attach rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to inclusion of non-existent information element (IE) in message. |
| 2G-IE Non Existent | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to error in conditional information element. |
| 2G-Conditional IE Error | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to error in conditional information element. |
| 3G-Message not compatible with protocol state | Total number of combined GPRS (PS and CS) attach rejected for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of combined GPRS (PS and CS) attach rejected for 2G service as message is not compatible with protocol state. |
| 3G-protocol Error | Total number of combined GPRS (PS and CS) attach rejected for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of combined GPRS (PS and CS) attach rejected for 2G service due to protocol error in message. |
| 3G-Unknown cause | Total number of combined GPRS (PS and CS) attach rejected for 3G service where cause is unknown or not specified here. |
| 2G-Unknown cause | Total number of combined GPRS (PS and CS) attach rejected for 2G service where cause is unknown or not specified here. |

| Field | Description |
|---|--|
| Attach Failure | This group displays the statistics for failures occurred during attach procedure. |
| Total Attach Failure | This group displays the statistics for total failures occurred during 2G and 3G attach procedure. |
| 3G-Attach-Failure | Total number of failures occurred during attach procedure for 3G service. |
| Gprs-Attach-Failure | Total number of failures occurred during GPRS attach procedure for 3G service. |
| Comb-Attach-Failure | Total number of failures occurred during combined (PS and CS) service attach procedure for 3G service. |
| 2G-Attach-Failure | Total number of failures occurred during attach procedure for 2G service. |
| Gprs-Attach-Failure | Total number of failures occurred during GPRS attach procedure for 2G service. |
| Comb-Attach-Failure | Total number of failures occurred during combined (PS and CS) service attach procedure for 2G service. |
| Gprs-Attach Failure Causes | This group displays the causes for failure occurred during GPRS attach procedure. |
| 3G-Iu release before Attach over | Total number of 3G GPRS attach procedure failures due to 3G Iu interface release happened before attach procedure completed. |
| 3G-Failure due to Other Ongoing Procedure | Total number of 3G GPRS attach procedure failed due to other procedure was in process while attach requested. |
| 2G-Failure due to Other Ongoing Procedure | Total number of 2G attach procedure failed due to other procedure was in process while attach requested. |
| Comb-Attach Failure Causes | This group displays the causes for failure occurred during combined (PS and CS) service attach procedure. |
| 3G-Iu release before Attach over | Total number of combined attach procedure failed due to 3G Iu interface release happened before completion of attach procedure |
| 3G-Failure due to Other Ongoing Procedure | Total number of combined 3G attach procedure failed due to other procedure was in process while attach requested. |
| 2G-Failure due to Other Ongoing Procedure | Total number of combined 2G attach procedure failed due to other procedure was in process while attach requested. |
| Routing Area Update Request | Indicates the statistics of RAU request. |
| Total-RAU | Indicates the total RAU request. |
| Total-Intra-SGSN-RAU | Total intra-SGSN RAU request messages. |

| Field | Description |
|----------------------------|--|
| Total-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN RA updates. |
| 3G-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN RA updates for 3G. |
| 2G-Ra-Up-Intra-SGSN-RAU | Total routing area update request messages for intra-SGSN RA updates for 2G. |
| Total-Periodic-Intra-RAU | Total periodic intra-RA update messages. |
| 3G-Periodic-Intra-RAU | Total periodic intra-RA update messages for 3G. |
| 2G-Periodic-Intra-RAU | Total periodic intra-RA update messages for 2G. |
| Total-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) services. |
| 3G-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) 3G services. |
| 2G-Comb-Intra-SGSN-RAU | Total intra-SGSN RAU request messages for combined (PS and CS) 2G services. |
| Total-PS-Inter-SGSN-RAU | Total packet switching inter-SGSN-RA update request messages. |
| 3G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages for 3G service. |
| 2G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages for 2G service. |
| Total-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages. |
| 3G-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages for 3G service. |
| 2G-Comb-Inter-SGSN-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages for 2G service. |
| Total-Ps-Inter-Rat-RAU | Description: Total number of GPRS only Inter RAT RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| 3G-Ps-Inter-Rat-RAU | Description: Total number of GPRS only Inter RAT RAU Requests received in a 3G service from a 2G service. Availability: per RA, per RNC, per SGSN service |

| Field | Description |
|---------------------------|---|
| 2G-Ps-Inter-Rat-RAU | Description: Total number of GPRS only Inter RAT RAU Requests received in a 2G service from a 3G service. Availability: per RA, per GPRS service |
| Total-Comb-Inter-Rat-RAU | Description: Total number of Combined Inter RAT RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| 3G-Comb-Inter-Rat-RAU | Description: Total number of Combined Inter RAT RAU Requests received in a 3G service from a 2G service. Availability: per RA, per RNC, per SGSN service |
| 2G-Comb-Inter-Rat-RAU | Description: Total number of Combined Inter RAT RAU Requests received in a 2G service from a 3G service. Availability: per RA, per GPRS service |
| Total-Ps-Inter-Serv-RAU | Description: Total number of GPRS only Inter Service RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| 3G-Ps-Inter-Serv-RAU | Description: Total number of GPRS only Inter Service RAU Requests from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| 2G-Ps-Inter-Serv-RAU | Description: Total number of GPRS only Inter Service RAU Requests from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Total-Comb-Inter-Serv-RAU | Description: Total number of Combined Inter Service RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| 3G-Comb-Inter-Serv-RAU | Description: Total number of Combined Inter Service RAU Requests from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| 2G-Comb-Inter-Serv-RAU | Description: Total number of Combined Inter Service RAU Requests from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Retransmission | Indicates the statistics of RAU requests retransmitted. |
| Ret-Total-RAU | Indicates the total RAU requests retransmitted. |
| Ret-Total-Intra-SGSN-RAU | Total intra-SGSN RAU request messages retransmitted. |

| Field | Description |
|-----------------------------|--|
| Ret-Total-Ra-Up-Intra-SGSN | Total routing area update request messages retransmitted for intra-SGSN RA updates. |
| Ret-3G-Ra-Up-Intra-SGSN | Total routing area update request messages retransmitted for intra-SGSN RA updates for 3G. |
| Ret-2G-Ra-Up-Intra-SGSN | Total routing area update request messages retransmitted for intra-SGSN RA updates for 2G. |
| Ret-Total-Perio-Intra-RAU | Total periodic intra-RA update messages retransmitted. |
| Ret-3G-Perio-Intra-RAU | Total periodic intra-RA update messages retransmitted for 3G. |
| Ret-2G-Perio-Intra-RAU | Total periodic intra-RA update messages retransmitted for 2G. |
| Ret-Total-Comb-Intra-RAU | Total intra-SGSN RAU request messages retransmitted for combined (PS and CS) services. |
| Ret-3G-Comb-Intra-RAU | Total intra-RAU request messages retransmitted for combined (PS and CS) 3G services. |
| Ret-2G-Comb-Intra-RAU | Total intra-RAU request messages retransmitted for combined (PS and CS) 2G services. |
| Ret-Total-PS-Inter-SGSN-RAU | Total packet switching inter-SGSN-RA update request messages retransmitted. |
| Ret-3G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages retransmitted for 3G service. |
| Ret-2G-PS-Inter-SGSN-RAU | Total packet switched inter-SGSN-RA update request messages retransmitted for 2G service. |
| Ret-Total-Comb-Inter-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted. |
| Ret-3G-Comb-Inter-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted for 3G service. |
| Ret-2G-Comb-Inter-RAU | Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted for 2G service. |
| Ret-Total-Ps-Inter-Rat-RAU | Description: Total number of retransmitted GPRS only Inter RAT RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Ps-Inter-Rat-RAU | Description: Total number of retransmitted GPRS only Inter RAT RAU Requests received in a 3G service from a 2G service. Availability: per RA, per RNC, per SGSN service |

| Field | Description |
|-------------------------------|---|
| Ret-2G-Ps-Inter-Rat-RAU | Description: Total number of retransmitted GPRS only Inter RAT RAU Requests received in a 2G service from a 3G service. Availability: per RA, per GPRS service |
| Ret-Total-Comb-Inter-Rat-RAU | Description: Total number of retransmitted Combined Inter RAT RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Comb-Inter-Rat-RAU | Description: Total number of retransmitted Combined Inter RAT RAU Requests received in a 3G service from a 2G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Comb-Inter-Rat-RAU | Description: Total number of retransmitted Combined Inter RAT RAU Requests received in a 2G service from a 3G service. Availability: per RA, per GPRS service |
| Ret-Total-Ps-Inter-Serv-RAU | Description: Total number of retransmitted GPRS only Inter Service RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Ps-Inter-Serv-RAU | Description: Total number of retransmitted GPRS only Inter Service RAU Requests from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Ps-Inter-Serv-RAU | Description: Total number of retransmitted GPRS only Inter Service RAU Requests from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Ret-Total-Comb-Inter-Serv-RAU | Description: Total number of retransmitted Combined Inter Service RAU Requests received in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Comb-Inter-Serv-RAU | Description: Total number of retransmitted Combined Inter Service RAU Requests from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Comb-Inter-Serv-RAU | Description: Total number of retransmitted Combined Inter Service RAU Requests from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Routing Area Update Accept | Indicates the statistics of routing area update accept messages on system. |
| Total-RAU-Accept | Total number of routing area update accept messages sent by SGSN. |

| Field | Description |
|---------------------------|---|
| Total-Intra-RAU-Accept | Total number of intra-SGSN routing area update accept messages sent by SGSN. |
| Total-Ra-Up-Intra-RAU-Acc | Total number of intra-SGSN RAU accept messages sent by SGSN for 2G and 3G service. |
| 3G-Ra-Up-Intra-RAU-Accept | Total number of intra-SGSN RAU accept messages sent by SGSN for 3G service. |
| 2G-Ra-Up-Intra-RAU-Accept | Total number of intra-SGSN RAU accept messages sent by SGSN for 2G service. |
| Total-Periodic-RAU-Accept | Total number of periodic RAU accept messages sent by SGSN for 2G and 3G service. |
| 3G-Periodic-RAU-Accept | Total number of periodic RAU accept messages sent by SGSN for 3G service. |
| 2G-Periodic-RAU-Accept | Total number of periodic RAU accept messages sent by SGSN for 2G service. |
| Total-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 2G and 3G service. |
| 3G-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 3G service. |
| 2G-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 2G service. |
| Total-Inter-SGSN-RAU-Acc | This group displays inter SGSN RAU Accept message statistics on SGSN. |
| Total-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 2G and 3G services sent by SGSN. |
| 3G-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 3G service sent by SGSN. |
| 2G-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 2G service sent by SGSN. |
| Total-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G and 3G services sent by SGSN. |
| 3G-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 3G services sent by SGSN. |
| 2G-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G services sent by SGSN. |

| Field | Description |
|-------------------------------|---|
| Total-Ps-Inter-Rat-RAU-Acc | <p>Description: Total number of GPRS only Inter RAT RAU Accepts sent in both 2G and 3G services.</p> <p>Availability: per RA, per RNC, per GPRS/SGSN service</p> |
| 3G-Ps-Inter-Rat-RAU-Acc | <p>Description: Total number of GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Ps-Inter-Rat-Acc | <p>Description: Total number of GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service.</p> <p>Availability: per RA, per GPRS service</p> |
| Total-Comb-Inter-Rat-RAU-Acc | <p>Description: Total number of Combined Inter RAT RAU Accepts sent in both 2G and 3G services.</p> <p>Availability: per RA, per RNC, per GPRS/SGSN service</p> |
| 3G-Comb-Inter-Rat-RAU-Acc | <p>Description: Total number of Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Comb-Inter-Rat-Acc | <p>Description: Total number of Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service.</p> <p>Availability: per RA, per GPRS service</p> |
| Total-Ps-Inter-Serv-RAU-Acc | <p>Description: Total number of GPRS only Inter Service RAU Accepts sent in both 2G and 3G services.</p> <p>Availability: per RA, per RNC, per GPRS/SGSN service</p> |
| 3G-Ps-Inter-Serv-RAU-Acc | <p>Description: Total number of GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Ps-Inter-Serv-RAU-Acc | <p>Description: Total number of GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service.</p> <p>Availability: per RA, per GPRS service</p> |
| Total-Comb-Inter-Serv-RAU-Acc | <p>Description: Total number of Combined Inter Service RAU Accepts sent in both 2G and 3G services.</p> <p>Availability: per RA, per RNC, per GPRS/SGSN service</p> |

| Field | Description |
|-------------------------------|---|
| 3G-Comb-Inter-Serv-RAU-Acc | Description: Total number of Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| 2G-Comb-Inter-Serv-RAU-Acc | Description: Total number of Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Retransmission | Indicates the statistics of routing area update messages retransmitted. |
| Ret-Total-RAU-Accept | Total number of routing area update accept messages retransmitted by SGSN. |
| Ret-Total-Intra-RAU-Accept | Total number of intra-SGSN routing area update accept messages retransmitted by SGSN. |
| Ret-Total-Ra-Up-Intra-RAU-Acc | Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 2G and 3G service. |
| Ret-3G-Ra-Up-Intra-RAU-Acc | Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 3G service. |
| Ret-2G-Ra-Up-Intra-RAU-Acc | Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 2G service. |
| Ret-Total-Periodic-RAU-Acc | Total number of periodic RAU accept messages retransmitted by SGSN for 2G and 3G service. |
| Ret-3G-Periodic-RAU-Acc | Total number of periodic RAU accept messages retransmitted by SGSN for 3G service. |
| Ret-2G-Periodic-RAU-Acc | Total number of periodic RAU accept messages retransmitted by SGSN for 2G service. |
| Ret-Total-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 2G and 3G service. |
| Ret-3G-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 3G service. |
| Ret-2G-Comb-Intra-RAU-Acc | Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 2G service. |
| Ret-Total-Inter-SGSN-RAU-Acc | This group displays inter SGSN RAU Accept message statistics on SGSN. |
| Ret-Total-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 2G and 3G services retransmitted by SGSN. |

| Field | Description |
|----------------------------------|--|
| Ret-3G-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 3G service retransmitted by SGSN. |
| Ret-2G-PS-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in PS network for 2G service retransmitted by SGSN. |
| Ret-Total-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G and 3G services retransmitted by SGSN. |
| Ret-3G-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 3G services retransmitted by SGSN. |
| Ret-2G-Comb-Inter-RAU-Acc | Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G services retransmitted by SGSN. |
| Ret-Total-Ps-Inter-Rat-RAU-Acc | Description: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Ps-Inter-Rat-RAU-Acc | Description: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Ps-Inter-Rat-Acc | Description: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. Availability: per RA, per GPRS service |
| Ret-Total-Comb-Inter-Rat-RAU-Acc | Description: Total number of retransmitted Combined Inter RAT RAU Accepts sent in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Comb-Inter-Rat-RAU-Acc | Description: Total number of retransmitted Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Comb-Inter-Rat-Acc | Description: Total number of retransmitted Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. Availability: per RA, per GPRS service |
| Ret-Total-Ps-Inter-Serv-RAU-Acc | Description: Total number of retransmitted GPRS only Inter Service RAU Accepts sent in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |

| Field | Description |
|-----------------------------------|--|
| Ret-3G-Ps-Inter-Serv-RAU-Acc | Description: Total number of retransmitted GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Ps-Inter-Serv-RAU-Acc | Description: Total number of retransmitted GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Ret-Total-Comb-Inter-Serv-RAU-Acc | Description: Total number of retransmitted Combined Inter Service RAU Accepts sent in both 2G and 3G services. Availability: per RA, per RNC, per GPRS/SGSN service |
| Ret-3G-Comb-Inter-Serv-RAU-Acc | Description: Total number of retransmitted Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. Availability: per RA, per RNC, per SGSN service |
| Ret-2G-Comb-Inter-Serv-RAU-Acc | Description: Total number of retransmitted Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. Availability: per RA, per GPRS service |
| Routing Area Update Complete | Indicates the statistics of routing area update complete messages. |
| Total-RAU-Complete | Total number of routing area update complete messages. |
| 3G-RAU-Complete | Total number of routing area update complete messages for 3G service. |
| 2G-RAU-Complete | Total number of routing area update complete messages for 2G service. |
| Routing Area Update Reject | Indicates the statistics of routing area update reject messages. |
| Total-RAU-Reject | Total number of routing area update reject messages. |
| Total-Intra-RAU-Reject | Total number of intra-SGSN routing area update reject messages sent by SGSN. |
| Total-Ra-up-Intra-RAU-Rej | Total number of intra-SGSN RAU reject messages reject by SGSN for 2G and 3G service. |
| 3G-Ra-Up-Intra-RAU-Reject | Total number of intra-SGSN RAU reject messages sent by SGSN for 3G service. |
| 2G-Ra-Up-Intra-RAU-Reject | Total number of intra-SGSN RAU reject messages sent by SGSN for 2G service. |

| Field | Description |
|------------------------------|---|
| Total-Periodic-RAU-Reject | Total number of periodic RAU reject messages sent by SGSN for 2G and 3G service. |
| 3G-Periodic-RAU-Reject | Total number of periodic RAU reject messages sent by SGSN for 3G service. |
| 2G-Periodic-RAU-Reject | Total number of periodic RAU reject messages sent by SGSN for 2G service. |
| Total-Comb-Intra-RAU-Rej | Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 2G and 3G service. |
| 3G-Comb-Intra-RAU-Reject | Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 3G service. |
| 2G-Comb-Intra-RAU-Reject | Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 2G service. |
| Total-Inter-SGSN-RAU-Rej | This group displays inter SGSN RAU reject message statistics on SGSN. |
| Total-PS-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in PS network for 2G and 3G services sent by SGSN. |
| 3G-PS-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in PS network for 3G service sent by SGSN. |
| 2G-PS-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in PS network for 2G service sent by SGSN. |
| Total-Comb-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN. |
| 3G-Comb-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN. |
| 2G-Comb-Inter-RAU-Rej | Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN. |
| Total-Inter-RAT-RAU-Rej | This group displays inter Radio Access Technology (RAT) RAU reject message statistics on SGSN. |
| Total-PS-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in PS network for 2G and 3G services sent by SGSN. |
| 3G-PS-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in PS network for 3G service sent by SGSN. |
| 2G-PS-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in PS network for 2G service sent by SGSN. |
| Total-Comb-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN. |

| Field | Description |
|--|--|
| 3G-Comb-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN. |
| 2G-Comb-Inter-RAT-RAU-Rej | Total number of inter RAT RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN. |
| Total-Inter-SRV-RAU-Rej | This group displays inter-SRV RAU reject message statistics on SGSN. |
| Total-PS-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in PS network for 2G and 3G services sent by SGSN. |
| 3G-PS-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in PS network for 3G service sent by SGSN. |
| 2G-PS-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in PS network for 2G service sent by SGSN. |
| Total-Comb-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN. |
| 3G-Comb-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN. |
| 2G-Comb-Inter-SRV-RAU-Rej | Total number of inter SRV RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN. |
| Intra Ra-Updated Routing Area Update Reject Causes | This group displays the causes for intra-RAT routing area update reject messages. |
| 3G-IMSI Unknown in HLR | Total number of intra RAT routing area update requests rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of intra RAT routing area update requests rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of intra RAT routing area update requests rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of intra RAT routing area update requests rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of intra RAT routing area update requests rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of intra RAT routing area update requests rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of intra RAT routing area update requests rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of intra RAT routing area update requests rejected for 2G service due to GPRS service not allowed for subscriber. |

| Field | Description |
|--|--|
| 3G-GPRS and Non-GPRS service not allowed | Total number of intra RAT routing area update requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of intra RAT routing area update requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSId not derived by Nw | Total number of intra RAT routing area update requests rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of intra RAT routing area update requests rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of intra RAT routing area update requests rejected for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of intra RAT routing area update requests rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of intra RAT routing area update requests rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of intra RAT routing area update requests rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of intra RAT routing area update requests rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of intra RAT routing area update requests rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this location area | Total number of intra RAT routing area update requests rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this location area | Total number of intra RAT routing area update requests rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of intra RAT routing area update requests rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of intra RAT routing area update requests rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of intra RAT routing area update requests rejected for 3G service due to non availability of suitable cell in specific location area. |

| Field | Description |
|--|--|
| 2G-No suitable cells in this Location Area | Total number of intra RAT routing area update requests rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSR not reachable | Total number of intra RAT routing area update requests rejected for 3G service as MSR not reachable. |
| 2G-MSR not reachable | Total number of intra RAT routing area update requests rejected for 2G service as MSR not reachable. |
| 3G-Network Failure | Total number of intra RAT routing area update requests rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of intra RAT routing area update requests rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of intra RAT routing area update requests rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of intra RAT routing area update requests rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of intra RAT routing area update requests rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of intra RAT routing area update requests rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of intra RAT routing area update requests rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of intra RAT routing area update requests rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of intra RAT routing area update requests rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of intra RAT routing area update requests rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of intra RAT routing area update requests rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of intra RAT routing area update requests rejected for 2G service as PDP context is not activated. |
| 3G-Retry from new cell | Total number of intra RAT routing area update requests rejected for 3G service as UE retried the update from new cell. |
| 2G-Retry from new cell | Total number of intra RAT routing area update requests rejected for 2G service as UE retried the update from new cell. |

| Field | Description |
|--|---|
| 3G-Semantically Wrong Msg | Total number of intra RAT routing area update request rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of intra RAT routing area update request rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of intra RAT routing area update request rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of intra RAT routing area update request rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of intra RAT routing area update request rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of intra RAT routing area update request rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of intra RAT routing area update request rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of intra RAT routing area update request rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of intra RAT routing area update request rejected for 3G service due to inclusion of non-existent information element (IE) in message. |
| 2G-IE Non Existent | Total number of intra RAT routing area update request rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of intra RAT routing area update request rejected for 3G service due to error in conditional informational element. |
| 2G-Conditional IE Error | Total number of intra RAT routing area update request rejected for 2G service due to error in conditional informational element. |
| 3G-Message not compatible with protocol state | Total number of intra RAT routing area update request rejected for 3G service due to incompatible protocol state in message. |
| 2G-Message not compatible with protocol state | Total number of intra RAT routing area update request rejected for 2G service due to incompatible protocol state in message |
| 3G-Protocol Error | Total number of intra RAT routing area update request rejected for 3G service due to protocol error in message. |
| 2G-Protocol Error | Total number of intra RAT routing area update request rejected for 2G service due to protocol error in message |

| Field | Description |
|--|--|
| 3G-Unknown cause | Total number of intra RAT routing area update request rejected for 3G service due to reasons other than listed here in message. |
| 2G-Unknown cause | Total number of intra RAT routing area update request rejected for 2G service due to reasons other than listed here in message. |
| Intra Periodic Routing Area Update Reject Causes | This group displays the intra RAT periodic RAU reject causes on SGSN. |
| 3G-IMSI Unknown in HLR | Total number of intra RAT periodic RAU requests rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of intra RAT periodic RAU requests rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of intra RAT periodic RAU requests rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of intra RAT periodic RAU requests rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of intra RAT periodic RAU requests rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of intra RAT periodic RAU requests rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS and Non-GPRS service not allowed | Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSID not derived by Nw | Total number of intra RAT periodic RAU requests rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSID not derived by Nw | Total number of intra RAT periodic RAU requests rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly Detached | Total number of intra RAT periodic RAU requests rejected for 3G service due to implicitly detach. |

| Field | Description |
|--|---|
| 2G-Implicitly Detached | Total number of intra RAT periodic RAU requests rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of intra RAT periodic RAU requests rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of intra RAT periodic RAU requests rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of intra RAT periodic RAU requests rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of intra RAT periodic RAU requests rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of intra RAT periodic RAU requests rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of intra RAT periodic RAU requests rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of intra RAT periodic RAU requests rejected for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of intra RAT periodic RAU requests rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of intra RAT periodic RAU requests rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of intra RAT periodic RAU requests rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of intra RAT periodic RAU requests rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of intra RAT periodic RAU requests rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of intra RAT periodic RAU requests rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of intra RAT periodic RAU requests rejected for 2G service due to MAC failure. |

| Field | Description |
|--|--|
| 3G-SYNC Failure | Total number of intra RAT periodic RAU requests rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of intra RAT periodic RAU requests rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of intra RAT periodic RAU requests rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of intra RAT periodic RAU requests rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of intra RAT periodic RAU requests rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of intra RAT periodic RAU requests rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of intra RAT periodic RAU requests rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of intra RAT periodic RAU requests rejected for 2G service as PDP context is not activated. |
| 3G-Retry from new cell | Total number of intra RAT periodic RAU requests rejected for 3G service as UE retried the update from new cell. |
| 2G-Retry from new cell | Total number of intra RAT periodic RAU requests rejected for 2G service as UE retried the update from new cell. |
| 3G-Semantically Wrong Msg | Total number of intra RAT periodic RAU requests rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of intra RAT periodic RAU requests rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of intra RAT periodic RAU requests rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of intra RAT periodic RAU requests rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of intra RAT periodic RAU requests rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of intra RAT periodic RAU requests rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of intra RAT periodic RAU requests rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of intra RAT periodic RAU requests rejected for 2G service as message type is not compatible with protocol state. |

| Field | Description |
|--|---|
| 3G-IE Non Existent | Total number of intra RAT periodic RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message. |
| 2G-IE Non Existent | Total number of intra RAT periodic RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of intra RAT periodic RAU requests rejected for 3G service due to error in conditional informational element. |
| 2G-Conditionanl IE Error | Total number of intra RAT periodic RAU requests rejected for 2G service due to error in conditional informational element. |
| 3G-Message not compatible with protocol state | Total number of intra RAT periodic RAU requests rejected for 3G service due to incompatible protocol state in message. |
| 2G-Message not compatible with protocol state | Total number of intra RAT periodic RAU requests rejected for 2G service due to incompatible protocol state in message |
| 3G-Protocol Error | Total number of intra RAT periodic RAU requests rejected for 3G service due to protocol error in message. |
| 2G-Protocol Error | Total number of intra RAT periodic RAU requests rejected for 2G service due to protocol error in message |
| 3G-Unknown cause | Total number of intra RAT periodic RAU requests rejected for 3G service due to reasons other than listed here in message. |
| 2G-Unknown cause | Total number of intra RAT periodic RAU requests rejected for 2G service due to reasons other than listed here in message. |
| Intra Combo. Routing Area Update Reject Causes | This group displays the intra RAT combined (PS and CS) RAU request reject causes on SGSN. |
| 3G-IMSI Unknown in HLR | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to illegal mobile equipment. |

| Field | Description |
|--|--|
| 3G-GPRS service not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS and Non-GPRS service not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSId not derived by Nw | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly Detached | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to implicitly detach. |
| 2G-Implicitly Detached | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to roaming not allowed in specific location area. |

| Field | Description |
|--|---|
| 3G-GPRS service not allowed in this PLMN | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to unacceptable authentication from GSM network. |

| Field | Description |
|--|---|
| 2G-GSM Auth Unacceptable | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as PDP context is not activated. |
| 3G-Retry from new cell | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as UE retried the update from new cell. |
| 2G-Retry from new cell | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as UE retried the update from new cell. |
| 3G-Semantically Wrong Msg | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message. |

| Field | Description |
|--|---|
| 2G-IE Non Existent | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to error in conditional informational element. |
| 2G-Conditional IE Error | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to error in conditional informational element. |
| 3G-Message not compatible with protocol state | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to incompatible protocol state in message. |
| 2G-Message not compatible with protocol state | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to incompatible protocol state in message |
| 3G-protocol Error | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to protocol error in message |
| 3G-Unknown cause | Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to reasons other than listed here in message. |
| 2G-Unknown cause | Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to reasons other than listed here in message. |
| Inter SGSN PS Only Routing Area Update Reject Causes | This group displays the inter SGSN PS-only RAU request reject causes on SGSN. |
| 3G-IMSI Unknown in HLR | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to illegal mobile equipment. |

| Field | Description |
|--|--|
| 2G-Illegal ME | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS and Non-GPRS service not allowed | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSId not derived by Nw | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly Detached | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to implicitly detach. |
| 2G-Implicitly Detached | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN. |

| Field | Description |
|--|---|
| 2G-GPRS service not allowed in this PLMN | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of inter SGSN PS-only RAU requests rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of inter SGSN PS-only RAU requests rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of inter SGSN PS-only RAU requests rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of inter SGSN PS-only RAU requests rejected for 2G service as PDP context is not activated. |

| Field | Description |
|--|---|
| 3G-Retry from new cell | Total number of inter SGSN PS-only RAU requests rejected for 3G service as UE retried the update from new cell. |
| 2G-Retry from new cell | Total number of inter SGSN PS-only RAU requests rejected for 2G service as UE retried the update from new cell. |
| 3G-Semantically Wrong Msg | Total number of inter SGSN PS-only RAU requests rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of inter SGSN PS-only RAU requests rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of inter SGSN PS-only RAU requests rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of inter SGSN PS-only RAU requests rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of inter SGSN PS-only RAU requests rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of inter SGSN PS-only RAU requests rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message. |
| 2G-IE Non Existent | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to error in conditional informational element. |
| 2G-Conditional IE Error | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to error in conditional informational element. |
| 3G-Message not compatible with protocol state | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to incompatible protocol state in message. |
| 2G-Message not compatible with protocol state | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to incompatible protocol state in message. |
| 3G-Protocol Error | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to protocol error in message. |

| Field | Description |
|--|---|
| 2G-Protocol Error | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to protocol error in message |
| 3G-Unknown cause | Total number of inter SGSN PS-only RAU requests rejected for 3G service due to reasons other than listed here in message. |
| 2G-Unknown cause | Total number of inter SGSN PS-only RAU requests rejected for 2G service due to reasons other than listed here in message. |
| Inter SGSN Comb. Routing Area Update Reject Causes | This group displays the combined (PS and CS) inter-SGSN RAU request reject causes on SGSN. |
| 3G-IMSI Unknown in HLR | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS and Non-GPRS service not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS and Non-GPRS service not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |

| Field | Description |
|--|--|
| 3G-MSId not derived by Nw | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this location area | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this location area | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to non availability of suitable cell in specific location area. |

| Field | Description |
|--|--|
| 2G-No suitable cells in this Location Area | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network failure. |
| 3G-MAC Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network congestion. |
| 2G-Congestion | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as PDP context is not activated. |

| Field | Description |
|--|---|
| 3G-Retry from new cell | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as update was retried from different cell than original RAU request by MS. |
| 2G-Retry from new cell | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as update was retried from different cell than original RAU request by MS. |
| 3G-Semantically Wrong Msg | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as message type is not compatible with protocol state. |
| 3G-IE Non Existent | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to inclusion of non-existent information element (IE) in message. |
| 2G-IE Non Existent | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to inclusion of non-existent information element (IE) in message. |
| 3G-Conditional IE Error | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to error in conditional information element. |

| Field | Description |
|---|---|
| 2G-Conditional IE Error | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to error in conditional information element. |
| 3G-Message not compatible with protocol state | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as message is not compatible with protocol state. |
| 3G-protocol Error | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to protocol error in message. |
| 3G-Unknown cause | Total number of combined (PS and CS) inter-SGSN attach rejected for 3G service where cause is unknown or not specified here. |
| 2G-Unknown cause | Total number of combined (PS and CS) inter-SGSN attach rejected for 2G service where cause is unknown or not specified here. |
| Inter RAT PS Only Routing Area Update Reject Causes | |
| 3G-IMSI Unknown in HLR | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-IMSI Unknown in HLR | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|---------------|--|
| 3G-Illegal MS | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Illegal MS".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal MS | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Illegal MS".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal ME | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal ME | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|--|---|
| 3G-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|--|---|
| 2G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MsId not derived by Nw | <p>Description: Total number of GPRS only inter-service routing area update request rejects sent with cause "MSID not derived by network" against Inter-Service-RAU requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|---------------------------|---|
| 2G-MsId not derived by Nw | <p>Description: Total number of GPRS only inter-service routing area update request rejects sent with cause "MSID not derived by network" against Inter-Service-RAU requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Implicitly Detached | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Implicitly Detached | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When we get an RAU from an unknown MS • On T3350 expiry for the Attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-PLMN not allowed | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|--|--|
| 2G-PLMN not allowed | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Location Area not allowed | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Location Area not allowed | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Roaming not allowed in this Location Area | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Roaming not allowed in this Location Area | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|--|--|
| 3G-GPRS service not allowed in this PLMN | <p>Description: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed in this PLMN | <p>Description: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-No suitable cells in this Location Area | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No suitable cells in this Location Area | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|----------------------|---|
| 3G-MSC not reachable | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSC not reachable | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|--------------------|--|
| 3G-Network Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Network Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU. • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MAC Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|--------------------------|--|
| 2G-MAC Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-SYNC Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-SYNC Failure | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Congestion | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Congestion | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GSM Auth Unacceptable | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|------------------------------|---|
| 2G-GSM Auth Unacceptable | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-No PDP contexts activated | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No PDP contexts activated | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Retry from new cell | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Retry from new cell | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Semantically Wrong Msg | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-Semantically Wrong Msg | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Invalid Mandatory Info | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Invalid Mandatory Info | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type Non Existent | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MSG type Non Existent | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type not compatible with protocol state | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type not compatible with protocol state | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-IE Non Existent | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|---|---|
| 2G-IE Non Existent | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Conditional IE Error | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Conditional IE Error | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Message not compatible with protocol state | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "message not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|---|--|
| 2G-Message not compatible with protocol state | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "message not compatible with protocol state".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Protocol Error | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "protocol error".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Protocol Error | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "protocol error".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Unknown cause | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "unknown error".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Unknown cause | <p>Description: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "unknown error".</p> <p>Availability: per RA, per GPRS service</p> |
| Inter RAT Comb. Routing Area Update Reject Causes | |
| 3G-IMSI Unknown in HLR | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to a SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|------------------------|---|
| 2G-IMSI Unknown in HLR | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "IMSI unknown at HLR".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal MS | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Illegal MS".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal MS | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Illegal MS".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal ME | <p>Description: Total number of Combined Inter RAT RAU rejects in 3G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-Illegal ME | <p>Description: Total number of Combined Inter RAT RAU rejects in 3G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSId not derived by Nw | <p>Description: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MSId not derived by Nw | <p>Description: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Implicitly Detached | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Implicitly Detached | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-PLMN not allowed | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-PLMN not allowed | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Location Area not allowed | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Location Area not allowed | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Roaming not allowed in this Location Area | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Roaming not allowed in this Location Area | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-GPRS service not allowed in this PLMN | <p>Description: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed in this PLMN | <p>Description: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-No suitable cells in this Location Area | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No suitable cells in this Location Area | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-MSR not reachable | <p>Description: Total number of Combined Inter RAT RAU rejects in 3G service with cause "MSR not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSR not reachable | <p>Description: Total number of Combined Inter RAT RAU rejects in 2G service with cause "MSR not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-Network Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Network Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MAC Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MAC Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-SYNC Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-SYNC Failure | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Congestion | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Congestion | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GSM Auth Unacceptable | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-GSM Auth Unacceptable | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-No PDP contexts activated | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No PDP contexts activated | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Retry from new cell | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Retry from new cell | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Semantically Wrong Msg | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|---------------------------|---|
| 2G-Semantically Wrong Msg | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Invalid Mandatory Info | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Invalid Mandatory Info | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type Non Existent | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MSG type Non Existent | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type not compatible with protocol state | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type not compatible with protocol state | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-IE Non Existent | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-IE Non Existent | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Conditional IE Error | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Conditional IE Error | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Message not compatible with protocol state | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "message not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-Message not compatible with protocol state | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "message not compatible with protocol state".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Protocol Error | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "protocol error".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Protocol Error | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "protocol error".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Unknown cause | <p>Description: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "unknown error".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Unknown cause | <p>Description: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "unknown error".</p> <p>Availability: per RA, per GPRS service</p> |
| Inter Service PS Only Routing Area Update Reject Causes | |
| 3G-IMSI Unknown in HLR | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|------------------------|--|
| 2G-IMSI Unknown in HLR | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal MS | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Illegal M".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal MS | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Illegal MS".</p> <ul style="list-style-type: none"> • Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal ME | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|-----------------------------|---|
| 2G-Illegal ME | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSID not derived by Nw | <p>Description: Total number of GPRS only Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MSId not derived by Nw | <p>Description: Total number of GPRS only Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Implicitly Detached | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Implicitly Detached | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-PLMN not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-PLMN not allowed | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Location Area not allowed | <p>Description: Total number of GPRS only Inter Service RAU rejects in 3G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Location Area not allowed | <p>Description: Total number of GPRS only Inter Service RAU rejects in 2G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Roaming not allowed in this Location Area | <p>Description: Total number of GPRS only Inter Service RAU rejects in 3G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Roaming not allowed in this Location Area | <p>Description: Total number of GPRS only Inter Service RAU rejects in 2G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-GPRS service not allowed in this PLMN | <p>Description: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS service not allowed in this PLMN | <p>Description: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-No suitable cells in this Location Area | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No suitable cells in this Location Area | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-MSC not reachable | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSC not reachable | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-Network Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Network Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU. • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MAC Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-MAC Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-SYNC Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-SYNC Failure | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Congestion | <p>Description: Total number of GPRS Only Inter Service RAU Rejects in 3G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Congestion | <p>Description: Total number of GPRS Only Inter Service RAU Rejects in 2G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-GSM Auth Unacceptable | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GSM Auth Unacceptable | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-No PDP contexts activated | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No PDP contexts activated | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Retry from new cell | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Retry from new cell | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-Semantically Wrong Msg | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Semantically Wrong Msg | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Invalid Mandatory Info | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Invalid Mandatory Info | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-MSG type Non Existent | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type Non Existent | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type not compatible with protocol state | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type not compatible with protocol state | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|-------------------------|---|
| 3G-IE Non Existent | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-IE Non Existent | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Conditional IE Error | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Conditional IE Error | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|---|---|
| 3G-Message not compatible with protocol state | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "message not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Message not compatible with protocol state | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Protocol Error | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| 2G-Protocol Error | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "protocol error".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per SGSN service</p> |
| 3G-Unknown cause | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "unknown error".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Unknown cause | <p>Description: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "unknown error".</p> <p>Availability: per RA, per GPRS service</p> |
| Inter Service Comb. Routing Area Update Reject Causes | |

| Field | Description |
|------------------------|---|
| 3G-IMSI Unknown in HLR | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "IMSI unknown at HLR".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On HLR sending a bad response to a SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-IMSI Unknown in HLR | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "IMSI unknown at HLR".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Illegal MS | <p>Description: Total number of Combined Inter Service RAU rejects in 3G service with cause "Illegal MS".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal MS | <p>Description: Total number of Combined Inter Service RAU rejects in 2G service with cause "Illegal MS".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|-----------------------------|--|
| 3G-Illegal ME | <p>Description: Total number of Combined Inter Service RAU rejects in 3G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Illegal ME | <p>Description: Total number of Combined Inter Service RAU rejects in 2G service with cause "Illegal ME".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|--|---|
| 2G-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GPRS and Non-GPRS service not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|---------------------------|--|
| 3G-MSID not derived by Nw | <p>Description: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xffff) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSID not derived by Nw | <p>Description: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
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| 3G-Implicitly Detached | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Implicitly Detached | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Implicitly detached".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-PLMN not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-PLMN not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "PLMN not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Location Area not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
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| 2G-Location Area not allowed | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Location area not allowed".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Roaming not allowed in this Location Area | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Roaming not allowed in this Location Area | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-GPRS service not allowed in this PLMN | <p>Description: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|--|--|
| 2G-GPRS service not allowed in this PLMN | <p>Description: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-No suitable cells in this Location Area | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No suitable cells in this Location Area | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "No cells in location area".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|----------------------|--|
| 3G-MS- not reachable | <p>Description: Total number of Combined Inter Service RAU rejects in 3G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MS- not reachable | <p>Description: Total number of Combined Inter Service RAU rejects in 2G service with cause "MSC not reachable".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because: <ul style="list-style-type: none"> • the request is timed out • inability to send to VLR • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|--------------------|---|
| 3G-Network Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Network Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Network Failure".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MAC Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|-----------------|---|
| 2G-MAC Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-SYNC Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-SYNC Failure | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Context Synchronization Failure".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Congestion | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Congestion | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Network Congestion".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|------------------------------|---|
| 3G-GSM Auth Unacceptable | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-GSM Auth Unacceptable | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "GSM Authentication unacceptable".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-No PDP contexts activated | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-No PDP contexts activated | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "PDP context not activated".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Retry from new cell | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Retry from new cell | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Subscriber retried from a new cell".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|---------------------------|--|
| 3G-Semantically Wrong Msg | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Semantically Wrong Msg | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Semantically wrong message".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Invalid Mandatory Info | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Invalid Mandatory Info | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Invalid Mandatory Info".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|--|---|
| 3G-MSG type Non Existent | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type Non Existent | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Message type does not exist".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-MSG type not compatible with protocol state | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-MSG type not compatible with protocol state | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|-------------------------|--|
| 3G-IE Non Existent | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-IE Non Existent | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Information element not existent".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Conditional IE Error | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Conditional IE Error | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "error in conditional informational element".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |

| Field | Description |
|---|--|
| 3G-Message not compatible with protocol state | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "message not compatible with protocol state".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Message not compatible with protocol state | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per GPRS service</p> |
| 3G-Protocol Error | <p>Description: Total number of Combined Inter Service RAU rejects in 3G service with cause "protocol error".</p> <p>Triggers: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Protocol Error | <p>Description: Total number of Combined Inter Service RAU rejects in 2G service with cause "protocol error".</p> <p>Triggers:</p> <ul style="list-style-type: none"> • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs <p>Availability: per RA, per GPRS service</p> |
| 3G-Unknown cause | <p>Description: Total number of Combined Inter Service RAU Rejects in 3G service with cause "unknown error".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Unknown cause | <p>Description: Total number of Combined Inter Service RAU Rejects in 2G service with cause "unknown error".</p> <p>Availability: per RA, per GPRS service</p> |
| Routing Area Update Failure | This group displays the statistics of total RAU failures on SGSN. |

| Field | Description |
|----------------------------|--|
| Total-RAU-Failure | This subgroup indicates all type of Routing Area Update message failures including 2G and 3G occurred on SGSN. |
| Total-Intra-RAU-Failure | Total all type of intra-routing area RAU failures including 2G and 3G occurred on SGSN. |
| Total-Ra-Up-Intra-RAU-Fail | Total intra-routing area RAU failures including 2G and 3G occurred on SGSN. |
| 3G-Ra-Up-Intra-RAU-Failure | Total intra-routing area RAU failures occurred on SGSN for 3G service. |
| 2G-Ra-Up-Intra-RAU-Failure | Total intra-routing area RAU failures occurred on SGSN for 2G service. |
| Total-Periodic-RAU-Failure | Total periodic RAU failures including 2G and 3G occurred on SGSN. |
| 3G-Periodic-RAU-Failure | Total periodic RAU failures occurred on SGSN for 3G service. |
| 2G-Periodic-RAU-Failure | Total periodic RAU failures occurred on SGSN for 2G service. |
| Total-Comb-Intra-RAU-Fail | Total combined (PS and CS) RAU failures including 2G and 3G occurred on SGSN. |
| 3G-Comb-Intra-RAU-Failure | Total combined (PS and CS) RAU failures occurred on SGSN for 3G service. |
| 2G-Comb-Intra-RAU-Failure | Total combined (PS and CS) RAU failures occurred on SGSN for 2G service. |
| Total-Inter-SGSN-RAU-Fail | Total all type of inter-SGSN RAU failures including 2G and 3G occurred on SGSN. |
| Total-PS-Inter-RAU-Failure | Total inter-SGSN RAU failures including 2G and 3G occurred on SGSN for PS-only service. |
| 3G-PS-Inter-RAU-Failure | Total inter-SGSN RAU failures for 3G occurred on SGSN for PS-only service. |
| 2G-PS-Inter-RAU-Failure | Total inter-SGSN RAU failures for 2G occurred on SGSN for PS-only service. |
| Total-Comb-Inter-RAU-Fail | Total inter-SGSN RAU failures including 2G and 3G occurred on SGSN for combined (PS and CS) service. |
| 3G-Comb-Inter-RAU-Failure | Total inter-SGSN RAU failures for 3G occurred on SGSN for combined (PS and CS) service. |
| 2G-Comb-Inter-RAU-Failure | Total inter-SGSN RAU failures for 2G occurred on SGSN for combined (PS and CS) service. |

| Field | Description |
|---|---|
| Total-Ps-Inter-Rat-RAU-Fail | Total PS-only inter-RAT RAU failures including 2G and 3G services occurred on SGSN. |
| 3G-Ps-Inter-Rat-RAU-Fail | Total PS-only inter-RAT RAU failures for 3G service occurred on SGSN. |
| 2G-Ps-Inter-Rat-Fail | Total PS-only inter-RAT RAU failures for 2G service occurred on SGSN. |
| Total-Comb-Inter-Rat-RAU-Fai | Total combined (PS and CS) inter-RAT RAU failures including 2G and 3G services occurred on SGSN. |
| 3G-Comb-Inter-Rat-RAU-Fail | Total combined (PS and CS) inter-RAT RAU failures for 3G service occurred on SGSN. |
| 2G-Comb-Inter-Rat-Fail | Total combined (PS and CS) inter-RAT RAU failures for 2G service occurred on SGSN. |
| Total-Ps-Inter-Serv-RAU-Fail | Total PS-only inter-service RAU failures including 2G and 3G services occurred on SGSN. |
| 3G-Ps-Inter-Serv-RAU-Fail | Total PS-only inter-service RAU failures for 3G service occurred on SGSN. |
| 2G-Ps-Inter-Serv-RAU-Fail | Total PS-only inter-service RAU failures for 2G service occurred on SGSN. |
| Total-Comb-Inter-Ser-RAU-Fai | Total combined (PS and CS) inter-service RAU failures including 2G and 3G services occurred on SGSN. |
| 3G-Comb-Inter-Ser-RAU-Fai | Total combined (PS and CS) inter-service RAU failures for 3G service occurred on SGSN. |
| 2G-Comb-Inter-Ser-RAU-Fai | Total combined (PS and CS) inter-service RAU failures for 2G service occurred on SGSN. |
| Intra Ra-Upd Routing Area Update Failure Causes | This group displays the failure causes for intra-routing area RAU request failures on SGSN. |
| 3G-Iu release before RAU over | Total number of intra-routing area RAU request failures occurred due to 3G Iu released before RAU procedure was over. |
| 3G-Failure due to Other Ongoing Procedure | Total number of intra-routing area RAU request failures occurred as another procedure was ongoing in 3G service. |
| 2G-Failure due to Other Ongoing Procedure | Total number of intra-routing area RAU request failures occurred as another procedure was ongoing in 2G service. |
| Intra Periodic Routing Area Update Failure Causes | This group displays the failure causes for periodic area RAU request failures on SGSN. |
| 3G-Iu release before RAU over | Total number of periodic RAU request failures occurred due to 3G Iu released before RAU procedure was over. |

| Field | Description |
|---|--|
| 3G-Failure due to Other Ongoing Procedure | Total number of periodic RAU request failures occurred as another procedure was ongoing in 3G service. |
| 2G-Failure due to Other Ongoing Procedure | Total number of periodic RAU request failures occurred as another procedure was ongoing in 2G service. |
| Intra Combo. Routing Area Update Failure Causes | This group displays the failure causes for combined (PS and CS) RAU request failures on SGSN. |
| 3G-Iu release before RAU over | Total number of combined (PS and CS) RAU request failures occurred due to 3G Iu released before RAU procedure was over. |
| 3G-Failure due to Other Ongoing Procedure | Total number of combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 3G service. |
| 2G-Failure due to Other Ongoing Procedure | Total number of combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 2G service. |
| Inter SGSN PS Only Routing Area Update Failure Causes | This group displays the failure causes for PS-only RAU request failures on SGSN. |
| 3G-Iu release before RAU over | Total number of PS-only RAU request failures occurred due to 3G Iu released before RAU procedure was over. |
| 3G-Failure due to Other Ongoing Procedure | Total number of PS-only RAU request failures occurred as another procedure was ongoing in 3G service. |
| 2G-Failure due to Other Ongoing Procedure | Total number of PS-only RAU request failures occurred as another procedure was ongoing in 2G service. |
| Inter SGSN Comb. Routing Area Update Failure Causes | This group displays the failure causes for inter-SGSN combined (PS and CS) RAU request failures on SGSN. |
| 3G-Iu release before RAU over | Total number of inter-SGSN combined (PS and CS) RAU request failures occurred due to 3G Iu released before RAU procedure was over. |
| 3G-Failure due to Other Ongoing Procedure | Total number of inter-SGSN combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 3G service. |
| 2G-Failure due to Other Ongoing Procedure | Total number of inter-SGSN combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 2G service. |
| Detach Request | Indicates the statistics of detach request messages. |
| Total-Detach-Req | Total number of detach request messages. |
| Total-MS-Init-Detach-Req | Total number of MS initiated detach request. |
| 3G-MS-Init-GPRS-Detach-Req | Total number of MS initiated GPRS (PS) detach request for 3G service. |
| 2G-MS-Init-GPRS-Detach-Req | Total number of MS initiated GPRS detach request for 2G service. |

| Field | Description |
|-----------------------------|--|
| 3G-MS-Init-IMSI-Detach-Req | Total number of MS initiated IMSI (CS) detach request for 3G service. |
| 2G-MS-Init-IMSI-Detach-Req | Total number of MS initiated IMSI detach request for 2G service. |
| 3G-MS-Init-Comb-Detach-Req | Total number of MS initiated combined (IMSI and GPRS) detach request for 3G service. |
| 2G-MS-Init-Comb-Detach-Req | Total number of MS initiated combined (PS and CS) detach request for 2G service. |
| Total-Nw-Init-Detach-Req | Total number of network initiated detach request. |
| 3G-Nw-Init-Reattach-Req | <p>Description: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services.</p> <p>Triggers: Increments when a clear subscriber is performed.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Nw-Init-Reattach-Req | <p>Description: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services.</p> <p>Triggers: Increments when a clear subscriber is performed.</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| 3G-Nw-Init-Reattach-Not-Req | <p>Description: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn).</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Nw-Init-Reattach-Not-Req | <p>Description: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn).</p> <p>Availability: per RA, per RNC, per GPRS service</p> |

| Field | Description |
|-----------------------------|--|
| 3G-Nw-Init-IMSI-Detach | <p>Description: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS.</p> <p>Triggers: Increments upon VLR-reset indication and a next uplink activity from MS.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Nw-Init-IMSI-Detach | <p>Description: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS.</p> <p>Triggers: Increments upon VLR-reset indication and a next uplink activity from MS.</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| Retransmission | Indicates the statistics of detach request messages retransmitted. |
| Ret-Total-Detach-Req | Total number of detach request messages retransmitted. |
| Ret-Total-MS-Init-Det-Req | Total number of MS initiated detach request messages retransmitted. |
| Ret-3G-MS-Init-GPRS-Det-Re | Total number of MS initiated GPRS (PS) detach request messages retransmitted for 3G service. |
| Ret-3G-MS-Init-IMSI-Det-Re | Total number of MS initiated IMSI (CS) detach request messages retransmitted for 3G service. |
| Ret-3G-MS-Init-Comb-Det-Re | Total number of MS initiated combined (IMSI and GPRS) detach request messages retransmitted for 3G service. |
| Ret-2G-MS-Init-GPRS-Det-Re | Total number of MS initiated GPRS detach request messages retransmitted for 2G service. |
| Ret-2G-MS-Init-IMSI-Det-Re | Total number of MS initiated IMSI detach request messages retransmitted for 2G service. |
| Ret-2G-MS-Init-Comb-Det-Re | Total number of MS initiated combined (PS and CS) detach request messages retransmitted for 2G service. |
| Ret-Total-Nw-Init-Det-Req | Total number of network initiated detach request messages retransmitted. |
| Ret-3G-Nw-Init-Reattach-Req | <p>Description: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Required".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |

| Field | Description |
|-----------------------------|--|
| Ret-2G-Nw-Init-Reattach-Req | <p>Description: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Required".</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| Ret-3G-Nw-Init-Reattach-Not | <p>Description: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Not Required".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| Ret-2G-Nw-Init-Reattach-Not | <p>Description: During the network initiated detach, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Not Required".</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| Ret-3G-Nw-Init-IMSI-Detach | <p>Description: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS in a 3G service.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "IMSI Detach".</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| Ret-2G-Nw-Init-IMSI-Detach | <p>Description: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS in a 2G service.</p> <p>Triggers: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "IMSI Detach".</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| Detach Accept | Indicates the statistics of detach request accept messages. |
| Total-Detach-Acc | Total number of detach request accept messages. |

| Field | Description |
|----------------------------|--|
| Total-MS-Init-Detach-Acc | Total number of MS initiated detach request accepted. |
| 3G-MS-Init-Detach-Acc | Total number of MS initiated GPRS detach request accepted for 3G service. |
| 2G-MS-Init-Detach-Acc | Total number of MS initiated IMSI detach request accepted for 2G service. |
| Total-Nw-Init-Detach-Acc | Total number of network initiated detach request accepted. |
| 3G-Nw-Init-Detach-Acc | Total number of network initiated detach request for 3G service. |
| 2G-Nw-Init-Detach-Acc | Total number of network initiated detach request for 2G service. |
| 3G-Nw-Init-GPRS-Detach-Acc | Total number of network initiated GPRS (PS) detach request accepted for 3G service. |
| 2G-Nw-Init-GPRS-Detach-Acc | Total number of network initiated GPRS (PS) detach request accepted for 2G service. |
| 3G-Nw-Init-IMSI-Detach-Acc | Total number of network initiated IMSI (CS) detach request accepted for 3G service. |
| 2G-Nw-Init-IMSI-Detach-Acc | Total number of network initiated IMSI (CS) detach request accepted for 2G service. |
| 3G-Nw-Init-Comb-Detach-Acc | Total number of network initiated combined (PS and CS) detach request accepted for 3G service. |
| 2G-Nw-Init-Comb-Detach-Acc | Total number of network initiated combined (PS and CS) detach request accepted for 2G service. |
| Service Request | Indicates the statistics of service request messages. |
| Total-Serv-Req | Indicates the statistics of total service request messages. |
| Total-Signalling-Serv-Req | Total signalling service requests messages. |
| 3G-Signalling-Serv-Req | Total signalling service requests messages for 3G service. |
| 2G-Signalling-Serv-Req | Total signalling service requests messages for 2G service. |
| Total-Page-Rsp-Serv-Req | Total paging response for service requests messages. |
| 3G-Page-Rsp-Serv-Req | Total paging response for service requests messages for 3G service. |
| 2G-Page-Rsp-Serv-Req | Total paging response for service requests messages for 2G service. |
| Total-Data-Serv-Req | Total data service requests messages. |
| 3G-Data-Serv-Req | Total data service requests messages for 3G service. |

| Field | Description |
|----------------------------|--|
| 2G-Data-Serv-Req | Total data service requests messages for 2G service. |
| Retransmission | Indicates the statistics of service request messages retransmitted. |
| Ret-Total-Serv-Req | Indicates the statistics of total service request messages retransmitted. |
| Ret-Total-Sig-Serv-Req | Total signalling service requests messages retransmitted. |
| Ret-3G-Sig-Serv-Req | Total signalling service requests messages retransmitted for 3G service. |
| Ret-2G-Signalling-Serv-Req | Total signalling service requests messages retransmitted for 2G service. |
| Ret-Total-PageRsp-Serv-Req | Total paging response for service requests messages retransmitted. |
| Ret-3G-PageRsp-Serv-Req | Total paging response for service requests messages retransmitted for 3G service. |
| Ret-2G-Page-Rsp-Serv-Req | Total paging response for service requests messages retransmitted for 2G service. |
| Ret-Total-Data-Serv-Req | Total data service requests messages retransmitted. |
| Ret-3G-Data-Serv-Req | Total data service requests messages retransmitted for 3G service. |
| Ret-2G-Data-Serv-Req | Total data service requests messages retransmitted for 2G service. |
| Service Accept | Indicates the statistics of service request messages. |
| Total-Serv-Resp | Total service response messages. |
| 3G-Service-Resp | Total service response messages for 3G service. |
| 2G-Service-Resp | Total service response messages for 2G service. |
| Service Reject | Total paging response for service requests messages. |
| Total-Serv-Rej | Total service reject messages. |
| 3G-Service-Rej | Total service reject messages for 3G service. |
| 2G-Service-Rej | Total service reject messages for 2G service. |
| Service Reject Causes | Indicates the statistics of causes for service request reject for 2G and 3G service. |
| 3G-Network Failure | Total number of service request rejected for 3G service due to network failure. |
| 2G-Network Failure | Total number of service request rejected for 2G service due to network failure. |

| Field | Description |
|---|--|
| 3G-IMSI Unknown in HLR | Total number of service request rejected for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of service request rejected for 2G service due to unknown IMSI in HLR. |
| 3G-MsId can not derived by Nw | Total number of service request rejected for 3G service as MSID can not derived by network from message. |
| 2G-MsId can not derived by Nw | Total number of service request rejected for 3G service as MSID can not derived by network from message. |
| 3G-Implicitly detached | Total number of service request rejected for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of service request rejected for 2G service due to implicitly detach. |
| 3G-Illegal MS | Total number of service request rejected for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of service request rejected for 2G service due to illegal mobile subscriber. |
| 3G-Message not compatible with protocol state | Total number of service request rejected for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of service request rejected for 2G service as message is not compatible with protocol state. |
| 3G-No PDP contexts activated | Total number of service request rejected for 3G service as no PDP context is activated. |
| 2G-No PDP contexts activated | Total number of service request rejected for 2G service as no PDP context is activated. |
| 3G-Semantically Wrong Msg | Total number of service request rejected for 3G service as request message is semantically wrong. |
| 2G-Semantically Wrong Msg | Total number of service request rejected for 2G service as request message is semantically wrong. |
| 3G-Unknown cause | Total number of service request rejected for 3G service due to unknown cause or reason not specified here. |
| 2G-Unknown cause | Total number of service request rejected for 3G service due to unknown cause or reason not specified here. |
| Paging Initiated | Indicates the statistics of paging initiated procedure. |
| Total-Page-Requests | Total paging request messages. |

| Field | Description |
|-------------------------|---|
| 3G-PS-Page-Requests | Total paging request messages in packet switching (PS) domain for 3G service. |
| 3G-CS-Page-Requests | Total paging request messages in circuit switching (CS) domain for 3G service. |
| 2G-PS-Page-Requests | Total paging request messages in packet switching (PS) domain for 2G service. |
| 2G-CS-Page-Requests | Total paging request messages in circuit switching (CS) domain for 2G service. |
| Total-Page-Responses | Total paging request response messages. |
| 3G-PS-Page-Responses | Total paging request response messages in packet switching (PS) domain for 3G service. |
| 3G-CS-Page-Responses | Total paging request response messages in circuit switching (CS) domain for 3G service. |
| 2G-PS-Page-Responses | Total paging request response messages in packet switching (PS) domain for 2G service. |
| 2G-CS-Page-Responses | Total paging request response messages in circuit switching (CS) domain for 2G service. |
| Retransmission | Indicates the statistics of paging initiated procedure retransmitted. |
| Ret-Total-Page-Requests | Total paging request messages. |
| Ret-3G-Page-Requests | Total paging request messages retransmitted in for 3G service. |
| Ret-2G-Page-Requests | Total paging request messages retransmitted in for 2G service. |
| Gmm Status Message | Indicates the statistics of GPRS mobility management procedure status messages. |
| Total-Gmm-Status-Sent | Total GPRS mobility management procedure status messages sent. |
| 3G-Gmm-Status-Sent | Total GPRS mobility management procedure status messages sent for 3G service. |
| 2G-Gmm-Status-Sent | Total GPRS mobility management procedure status messages sent for 2G service. |
| Total-Gmm-Status-Rcvd | Total GPRS mobility management procedure status messages received. |
| 3G-Gmm-Status-Rcvd | Total GPRS mobility management procedure status messages received for 3G service. |

| Field | Description |
|---|--|
| 2G-Gmm-Status-Rcvd | Total GPRS mobility management procedure status messages received for 2G service. |
| GMM Status Sent Causes | Indicates the statistics of causes for GPRS mobility management status messages sent for 2G and 3G service. |
| 3G-IMSI Unknown in HLR | Total number of GMM status messages sent for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of GMM status messages sent for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of GMM status messages sent for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of GMM status messages sent for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of GMM status messages sent for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of GMM status messages sent for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of GMM status messages sent for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of GMM status messages sent for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS & Non-GPRS services not allowed | Total number of GMM status messages sent for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS & Non-GPRS services not allowed | Total number of GMM status messages sent for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MsId not derived by Nw | Total number of GMM status messages sent for 3G service due to network failed to derive MSID from attach message. |
| 2G-MsId not derived by Nw | Total number of GMM status messages sent for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of GMM status messages sent for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of GMM status messages sent for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of GMM status messages sent for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of GMM status messages sent for 2G service due to specific PLMN not allowed. |

| Field | Description |
|--|---|
| 3G-Location Area not allowed | Total number of GMM status messages sent for 3G service due to specific location area not allowed. |
| 2G-Location Area not allowed | Total number of GMM status messages sent for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of GMM status messages sent for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of GMM status messages sent for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of GMM status messages sent for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of GMM status messages sent for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of GMM status messages sent for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of GMM status messages sent for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MSC not reachable | Total number of GMM status messages sent for 3G service as MSC not reachable. |
| 2G-MSC not reachable | Total number of GMM status messages sent for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of GMM status messages sent for 3G service due to network failure. |
| 2G-Network Failure | Total number of GMM status messages sent for 2G service due to network failure. |
| 3G-MAC Failure | Total number of GMM status messages sent for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of GMM status messages sent for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of GMM status messages sent for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of GMM status messages sent for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of GMM status messages sent for 3G service due to network congestion. |
| 2G-Congestion | Total number of GMM status messages sent for 2G service due to network congestion. |

| Field | Description |
|--|--|
| 3G-GSM Auth Unacceptable | Total number of GMM status messages sent for 3G service due to unacceptable authentication from GSM network. |
| 2G-GSM Auth Unacceptable | Total number of GMM status messages sent for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of GMM status messages sent for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of GMM status messages sent for 2G service as PDP context is not activated. |
| 3G-Semantically Wrong Msg | Total number of GMM status messages sent for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrg Msg | Total number of GMM status messages sent for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of GMM status messages sent for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of GMM status messages sent for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of GMM status messages sent for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of GMM status messages sent for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of GMM status messages sent for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of GMM status messages sent for 2G service as message type is not compatible with protocol state. |
| 3G-Conditional IE Error | Total number of GMM status messages sent for 3G service due to error in conditional information element. |
| 2G-conditional IE Error | Total number of GMM status messages sent for 2G service due to error in conditional information element. |
| 3G-Message not compatible with protocol state | Total number of GMM status messages sent for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of GMM status messages sent for 2G service as message is not compatible with protocol state. |
| 3G-protocol Error | Total number of GMM status messages sent for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of GMM status messages sent for 2G service due to protocol error in message. |

| Field | Description |
|---|--|
| GMM Status Rcvd Causes | Indicates the statistics of causes for GPRS mobility management status messages received for 2G and 3G service. |
| 3G-IMSI Unknown in HLR | Total number of GMM status messages received for 3G service due to unknown IMSI in HLR. |
| 2G-IMSI Unknown in HLR | Total number of GMM status messages received for 2G service due to unknown IMSI in HLR. |
| 3G-Illegal MS | Total number of GMM status messages received for 3G service due to illegal mobile subscriber. |
| 2G-Illegal MS | Total number of GMM status messages received for 2G service due to illegal mobile subscriber. |
| 3G-Illegal ME | Total number of GMM status messages received for 3G service due to illegal mobile equipment. |
| 2G-Illegal ME | Total number of GMM status messages received for 2G service due to illegal mobile equipment. |
| 3G-GPRS service not allowed | Total number of GMM status messages received for 3G service due to GPRS service not allowed for subscriber. |
| 2G-GPRS service not allowed | Total number of GMM status messages received for 2G service due to GPRS service not allowed for subscriber. |
| 3G-GPRS & Non-GPRS services not allowed | Total number of GMM status messages received for 3G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 2G-GPRS & Non-GPRS services not allowed | Total number of GMM status messages received for 2G service due to GPRS and non-GPRS service not allowed for subscriber. |
| 3G-MSId not derived by Nw | Total number of GMM status messages received for 3G service due to network failed to derive MSID from attach message. |
| 2G-MSId not derived by Nw | Total number of GMM status messages received for 2G service due to network failed to derive MSID from attach message. |
| 3G-Implicitly detached | Total number of GMM status messages received for 3G service due to implicitly detach. |
| 2G-Implicitly detached | Total number of GMM status messages received for 2G service due to implicitly detach. |
| 3G-PLMN not allowed | Total number of GMM status messages received for 3G service due to specific PLMN not allowed. |
| 2G-PLMN not allowed | Total number of GMM status messages received for 2G service due to specific PLMN not allowed. |
| 3G-Location Area not allowed | Total number of GMM status messages received for 3G service due to specific location area not allowed. |

| Field | Description |
|--|---|
| 2G-Location Area not allowed | Total number of GMM status messages received for 2G service due to specific location area not allowed. |
| 3G-Roaming not allowed in this Location Area | Total number of GMM status messages received for 3G service due to roaming not allowed in specific location area. |
| 2G-Roaming not allowed in this Location Area | Total number of GMM status messages received for 2G service due to roaming not allowed in specific location area. |
| 3G-GPRS service not allowed in this PLMN | Total number of GMM status messages received for 3G service due to GPRS service not allowed in specific PLMN. |
| 2G-GPRS service not allowed in this PLMN | Total number of GMM status messages received for 2G service due to GPRS service not allowed in specific PLMN. |
| 3G-No suitable cells in this Location Area | Total number of GMM status messages received for 3G service due to non availability of suitable cell in specific location area. |
| 2G-No suitable cells in this Location Area | Total number of GMM status messages received for 2G service due to non availability of suitable cell in specific location area. |
| 3G-MS-C not reachable | Total number of GMM status messages received for 3G service as MSC not reachable. |
| 2G-MS-C not reachable | Total number of GMM status messages received for 2G service as MSC not reachable. |
| 3G-Network Failure | Total number of GMM status messages received for 3G service due to network failure. |
| 2G-Network Failure | Total number of GMM status messages received for 2G service due to network failure. |
| 3G-MAC Failure | Total number of GMM status messages received for 3G service due to message authenticate code (MAC) failure. |
| 2G-MAC Failure | Total number of GMM status messages received for 2G service due to MAC failure. |
| 3G-SYNC Failure | Total number of GMM status messages received for 3G service due to context synchronization failure. |
| 2G-SYNC Failure | Total number of GMM status messages received for 2G service due to context synchronization failure. |
| 3G-Congestion | Total number of GMM status messages received for 3G service due to network congestion. |
| 2G-Congestion | Total number of GMM status messages received for 2G service due to network congestion. |
| 3G-GSM Auth Unacceptable | Total number of GMM status messages received for 3G service due to unacceptable authentication from GSM network. |

| Field | Description |
|--|--|
| 2G-GSM Auth Unacceptable | Total number of GMM status messages received for 2G service due to unacceptable authentication from GSM network. |
| 3G-No PDP contexts activated | Total number of GMM status messages received for 3G service as PDP context is not activated. |
| 2G-No PDP contexts activated | Total number of GMM status messages received for 2G service as PDP context is not activated. |
| 3G-Semantically Wrong Msg | Total number of GMM status messages received for 3G service as attach request message is semantically wrong. |
| 2G-Semantically Wrong Msg | Total number of GMM status messages received for 2G service as attach request message is semantically wrong. |
| 3G-Invalid Mandatory Info | Total number of GMM status messages received for 3G service as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of GMM status messages received for 2G service as mandatory information in message is invalid. |
| 3G-MSG type Non Existent | Total number of GMM status messages received for 3G service due to non-existent type of message. |
| 2G-MSG type Non Existent | Total number of GMM status messages received for 2G service due to non-existent type of message. |
| 3G-MSG type not compatible with protocol state | Total number of GMM status messages received for 3G service as message type is not compatible with protocol state. |
| 2G-MSG type not compatible with protocol state | Total number of GMM status messages received for 2G service as message type is not compatible with protocol state. |
| 3G-Conditional IE Error | Total number of GMM status messages received for 3G service due to error in conditional information element. |
| 2G-conditional IE Error | Total number of GMM status messages received for 2G service due to error in conditional information element. |
| 3G-Message not compatible with protocol state | Total number of GMM status messages received for 3G service as message is not compatible with protocol state. |
| 2G-Message not compatible with protocol state | Total number of GMM status messages received for 2G service as message is not compatible with protocol state. |
| 3G-protocol Error | Total number of GMM status messages received for 3G service due to protocol error in message. |
| 2G-protocol Error | Total number of GMM status messages received for 2G service due to protocol error in message. |
| Gmm Information Sent | Indicates the statistics of messages sent with GPRS mobility management information. |

| Field | Description |
|----------------------------|---|
| Total-Gmm-Information-Sent | Total messages sent with GPRS mobility management information. |
| 3G-Gmm-Information-Sent | Total messages sent with GPRS mobility management information for 3G service. |
| 2G-Gmm-Information-Sent | Total messages sent with GPRS mobility management information for 2G service. |
| Inter-System Procedures | This group displays the statistics of inter-system procedures. |
| 3G-Ra-Up-RAU | Total numbers of RAU messages (Accept+Reject) sent for 3G routing area update procedure. |
| 2G-Ra-Up-RAU | Total numbers of RAU messages (Accept+Reject) sent for 2G routing area update procedure. |
| 3G-Comb-RAU | Total numbers of combined (PS and CS) RAU messages (Accept+Reject) sent for 3G routing area update procedure. |
| 2G-Comb-RAU | Total numbers of combined (PS and CS) RAU messages (Accept+Reject) sent for 2G routing area update procedure. |
| 3G-Ra-Up-RAU-Rej | Total numbers of RAU Reject messages sent for 3G routing area update procedure. |
| 2G-Ra-Up-RAU-Rej | Total numbers of RAU Reject messages sent for 2G routing area update procedure. |
| 3G-Comb-RAU-Rej | Total numbers of combined (PS and CS) RAU Reject messages sent for 3G routing area update procedure. |
| 2G-Comb-RAU-Rej | Total numbers of combined (PS and CS) RAU Reject messages sent for 2G routing area update procedure. |
| 3G-Ra-Up-RAU-Acc | Total numbers of RAU Accept messages sent for 3G routing area update procedure. |
| 2G-Ra-Up-RAU-Acc | Total numbers of RAU Accept messages sent for 2G routing area update procedure. |
| 3G-Comb-RAU-Acc | Total numbers of combined (PS and CS) RAU Accept messages sent for 3G routing area update procedure. |
| 2G-Comb-RAU-Acc | Total numbers of combined (PS and CS) RAU Accept messages sent for 2G routing area update procedure. |
| 3G-Attach | Total numbers of Attach messages (Accept+Reject) sent for 3G subscriber attach procedure. |
| 2G-Attach | Total numbers of Attach messages (Accept+Reject) sent for 2G subscriber attach procedure. |

| Field | Description |
|--------------------------------------|--|
| 3G-Comb-Attach | Total numbers of combined (PS and CS) Attach messages (Accept+Reject) sent for 3G subscriber attach procedure. |
| 2G-Comb-Attach | Total numbers of combined (PS and CS) Attach messages (Accept+Reject) sent for 3G subscriber attach procedure. |
| 3G-Attach-Rej | Total numbers of Attach Reject messages sent for 3G subscriber attach procedure. |
| 2G-Attach-Rej | Total numbers of Attach Reject messages sent for 2G subscriber attach procedure. |
| 3G-Comb-Attach-Rej | Total numbers of combined (PS and CS) Attach Reject messages sent for 3G subscriber attach procedure. |
| 2G-Comb-Attach-Rej | Total numbers of combined (PS and CS) Attach Reject messages sent for 2G subscriber attach procedure. |
| 3G-Attach-Acc | Total numbers of Attach Accept messages sent for 3G subscriber attach procedure. |
| 2G-Attach-Acc | Total numbers of Attach Accept messages sent for 2G subscriber attach procedure. |
| 3G-Comb-Attach-Acc | Total numbers of combined (PS and CS) Attach Accept messages sent for 3G subscriber attach procedure. |
| 2G-Comb-Attach-Acc | Total numbers of combined (PS and CS) Attach Accept messages sent for 2G subscriber attach procedure. |
| Common Procedures | Indicates the statistics of common procedures in GPRS mobility management procedure. |
| Authentication And Ciphering Request | Indicates the statistics of authentication and ciphering request messages. |
| Total-Auth-Cipher-Req | Total authentication and ciphering request messages. |
| 3G-Auth-Cipher-Req | Total authentication and ciphering request messages for 3G service. |
| 2G-Auth-Cipher-Req | Total authentication and ciphering request messages for 2G service. |
| Retransmission | Indicates the statistics of authentication and ciphering request messages retransmitted. |
| Ret-Total-Auth-Cipher-Req | Total authentication and ciphering request messages retransmitted. |
| Ret-3G-Auth-Cipher-Req | Total authentication and ciphering request messages retransmitted for 3G service. |

| Field | Description |
|--|--|
| Ret-2G-Auth-Cipher-Req | Total authentication and ciphering request messages retransmitted for 2G service. |
| Authentication And Ciphering Response | Indicates the statistics of authentication and ciphering request response messages. |
| Total-Auth-Cipher-Resp | Total authentication and ciphering request response messages. |
| 3G-Auth-Cipher-Resp | Total authentication and ciphering request response messages for 3G service. |
| 2G-Auth-Cipher-Resp | Total authentication and ciphering request response messages for 2G service. |
| Authentication And Ciphering Response With SRES Mismatch | Indicates the statistics of authentication and ciphering request response messages having Signed RESponse (SRES) mismatch. |
| Total-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch. |
| 3G-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 3G service. |
| 2G-Auth-Cipher-Resp with Sres Mismatch | Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 2G service. |
| Authentication And Ciphering Reject | Indicates the statistics of authentication and ciphering request reject messages. |
| Total-Auth-Cipher-Rej | Total authentication and ciphering request reject messages. |
| 3G-Auth-Cipher-Rej | Total authentication and ciphering request reject messages for 3G service. |
| 2G-Auth-Cipher-Rej | Total authentication and ciphering request reject messages for 2G service. |
| Authentication And Ciphering Reject Reasons | Indicates the statistics of reasons for authentication and ciphering request rejects. |
| 3G-XRes Mismatch | Total authentication and ciphering requests rejected for 3G service due to mismatch in expected authentication response (XRES) from subscriber. |
| 2G-XRes Mismatch | Total authentication and ciphering requests rejected for 2G service due to mismatch in expected authentication response (XRES) from subscriber |
| 3G-SYNC does not have AUTS | Total authentication and ciphering requests rejected for 3G service where synchronization is missing Authentication Token for Re-synchronization (AUTS). |

| Field | Description |
|--------------------------------------|--|
| 2G-SYNC does not have AUTS | Total authentication and ciphering requests rejected for 2G service where synchronization is missing Authentication Token for Re-synchronization (AUTS). |
| 3G-Too many SYNC Failures | Total authentication and ciphering requests rejected for 3G service due to synchronization failure beyond allowed number of time. |
| 2G-Too many SYNC Failures | Total authentication and ciphering requests rejected for 3G service due to synchronization failure beyond allowed number of time. |
| 3G-Too many MAC Failures | Total authentication and ciphering requests rejected for 3G service due to message authentication code failure beyond allowed number of time. |
| 2G-Too many MAC Failures | Total authentication and ciphering requests rejected for 2G service due to message authentication code failure beyond allowed number of time. |
| 3G-Gsm Auth Unacc | Total GSM authentication and ciphering requests rejected for 3G service due to unacceptable GSM network failure in procedure. |
| 2G-Gsm Auth Unacc | Total GSM authentication and ciphering requests rejected for 2G service due to unacceptable GSM network failure in procedure. |
| 3G-Other cause | Total authentication and ciphering requests rejected for 3G service due reasons not already listed as "Authentication and Ciphering Reject Reasons". |
| 2G-Other cause | Total authentication and ciphering requests rejected for 2G service due reasons not already listed as "Authentication and Ciphering Reject Reasons". |
| Authentication And Ciphering Failure | Indicates the statistics of authentication and ciphering request failures. |
| Total-Auth-Cipher-Failure | Total authentication and ciphering request failures. |
| 3G-Auth-Cipher-Mac-Failure | Total authentication and ciphering failures due to message authentication code (MAC) for 3G service. |
| 2G-Auth-Cipher-Mac-Failure | Total authentication and ciphering failures due to message authentication code (MAC) for 2G service. |
| 3G-Auth-Cipher-Sync-Failure | Total authentication and ciphering failures due to synchronisation for 3G service. |
| 2G-Auth-Cipher-Syn-Failure | Total authentication and ciphering failures due to synchronisation for 2G service. |
| 3G-Auth-Unacceptable | Total authentication and ciphering failures due to unacceptable delay for 3G service. |

| Field | Description |
|------------------------------|---|
| 2G-Auth-Unacceptable | Total authentication and ciphering failures due to unacceptable delay for 2G service. |
| P-TMSI Realloc | Indicates the statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure. |
| Total-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure. |
| 3G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure for 3G service. |
| 2G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure for 2G service. |
| Retransmission | Indicates the statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation messages retransmitted. |
| Ret-Total-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure messages retransmitted. |
| Ret-3G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation messages retransmitted for 3G service. |
| Ret-2G-PTMSI Realloc | Total Packet-Temporary Mobile Subscriber Identity reallocation procedure messages retransmitted for 2G service. |
| P-TMSI Realloc Complete | Statistics related to completed Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures. |
| Total-PTMSI Realloc Complete | Total (P-TMSI) reallocation procedures completed. |
| 3G-PTMSI Realloc Complete | Total (P-TMSI) reallocation procedures completed for 3G service. |
| 2G-PTMSI Realloc Complete | Total (P-TMSI) reallocation procedures completed for 2G service. |
| Identity Request | Identity request messages statistics. |
| Total-Identity-Req | Total identity request messages. |
| Total-IMSI-Identity-Req | Total International Mobile Subscriber Identity (IMSI) identity request messages |
| 3G-IMSI-Identity-Req | Total IMSI identity request messages for 3G service. |
| 2G-IMSI-Identity-Req | Total IMSI identity request messages for 2G service. |
| Total-IMEI-Identity-Req | Total International Mobile Equipment Identity (IMEI) request messages. |
| 3G-IMEI-Identity-Req | Total IMEI identity request messages for 3G service. |
| 2G-IMEI-Identity-Req | Total IMEI identity request messages for 2G service. |

| Field | Description |
|-----------------------------|---|
| Total-IMEISV-Identity-Req | Total International Mobile Equipment Identity-Software Version (IMEI-SV) identity request messages. |
| 3G-IMEISV-Identity-Req | Total IMEI-SV identity request messages for 3G service. |
| 2G-IMEISV-Identity-Req | Total IMEI-SV identity request messages for 2G service. |
| Total-(P)TMSI-Identity-Req | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages. |
| 3G-(P)TMSI-Identity-Req | Total P-TMSI identity request messages for 3G service. |
| 2G-(P)TMSI-Identity-Req | Total P-TMSI identity request messages for 2G service. |
| Retransmission | Identity request messages retransmission statistics. |
| Ret-Tot-Identity-Req | Total identity request messages. |
| Ret-Tot-IMSI-Identity-Req | Total international mobile subscriber identity (IMSI) identity request messages retransmitted. |
| Ret-3G-IMSI-Identity-Req | Total IMSI identity request messages retransmitted for 3G service. |
| Ret-2G-IMSI-Identity-Req | Total IMSI identity request messages retransmitted for 2G service. |
| Ret-Tot-IMEI-Identity-Req | Total international mobile equipment identity (IMEI) request messages retransmitted. |
| Ret-3G-IMEI-Identity-Req | Total IMEI identity request messages retransmitted for 3G service. |
| Ret-2G-IMEI-Identity-Req | Total IMEI identity request messages retransmitted for 2G service. |
| Ret-Tot-IMEISV-Identity-Req | Total international mobile equipment identity-software version (IMEI-SV) identity request messages retransmitted. |
| Ret-3G-IMEISV-Identity-Req | Total IMEI-SV identity request messages retransmitted for 3G service. |
| Ret-2G-IMEISV-Identity-Req | Total IMEI-SV identity request messages retransmitted for 2G service. |
| Ret-Tot-(P)TMSI-Ident-Req | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages retransmitted. |
| Ret-3G-(P)TMSI-Ident-Req | Total P-TMSI identity request messages retransmitted for 3G service. |
| Ret-2G-(P)TMSI-Ident-Req | Total P-TMSI identity request messages retransmitted for 2G service. |
| Identity Response | Indicates the statistics of identity request messages. |
| Total-Identity-Rsp | Total identity request response messages. |

| Field | Description |
|----------------------------|--|
| Total-IMSI-Identity-Rsp | Total international mobile subscriber identity (IMSI) identity request response messages. |
| 3G-IMSI-Identity-Rsp | Total IMSI identity request response messages for 3G service. |
| 2G-IMSI-Identity-Rsp | Total IMSI identity request response messages for 2G service. |
| Total-IMEI-Identity-Rsp | Total international mobile equipment identity (IMEI) request response messages. |
| 3G-IMEI-Identity-Rsp | Total IMEI identity request response messages for 3G service. |
| 2G-IMEI-Identity-Rsp | Total IMEI identity request response messages for 2G service. |
| Total-IMEISV-Identity-Rsp | Total international mobile equipment identity-software version (IMEI-SV) identity request response messages. |
| 3G-IMEISV-Identity-Rsp | Total IMEI-SV identity request response messages for 3G service. |
| 2G-IMEISV-Identity-Rsp | Total IMEI-SV identity request response messages for 2G service. |
| Total-(P)TMSI-Identity-Rsp | Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request response messages. |
| 3G-(P)TMSI-Identity-Rsp | Total P-TMSI identity request response messages for 3G service. |
| 2G-(P)TMSI-Identity-Rsp | Total P-TMSI identity request response messages for 2G service. |
| Total-Unknown-Identity-Rsp | Total identity response messages for unknown identity. |
| 3G-Unknown-Identity-Rsp | Total identity response messages for unknown identity for 3G service. |
| 2G-Unknown-Identity-Rsp | Total identity response messages for unknown identity for 2G service. |
| Timers | Indicates the statistics of different message and procedure timers. |
| Total-T3350-Expiry | Total number of times the T3350 timer timed-out. |
| 3G-T3350-Expiry | Total number of times the T3350 timer timed-out for 3G service. |
| 2G-T3350-Expiry | Total number of times the T3350 timer timed-out for 2G service. |
| Total-T3360-Expiry | Total number of times the T3360 timer timed-out. |
| 3G-T3360-Expiry | Total number of times the T3360 timer timed-out for 3G service. |
| 2G-T3360-Expiry | Total number of times the T3360 timer timed-out for 2G service. |
| Total-T3370-Expiry | Total number of times the T3370 timer timed-out. |
| 3G-T3370-Expiry | Total number of times the T3370 timer timed-out for 3G service. |

| Field | Description |
|---------------------------|---|
| 2G-T3370-Expiry | Total number of times the T3370 timer timed-out for 2G service. |
| Total-T3322-Expiry | Total number of times the T3322 timer timed-out. |
| 3G-T3322-Expiry | Total number of times the T3322 timer timed-out for 3G service. |
| 2G-T3322-Expiry | Total number of times the T3322 timer timed-out for 2G service. |
| Total-T3313-Expiry | Total number of times the T3313 timer timed-out. |
| 3G-T3313-Expiry | Total number of times the T3313 timer timed-out for 3G service. |
| 2G-T3313-Expiry | Total number of times the T3313 timer timed-out for 2G service. |
| 2G Specific Timers | Indicates the statistics of 2G specific timers timeout events. |
| T3314-Expiry(Ready Timer) | Total number of times the 2G specific ready timer timed-out for 2G service. |
| Ranap Procedures | Indicates the statistics of Radio Access Network Application Part (RANAP) procedures. |
| Initial UE Rcvd | Total number of initial user equipment (UE) messages received. |
| Common Id sent | Total number of common identifier messages sent. |
| Direct Transfer Sent | Total number of direct transfer messages sent. |
| Direct Transfer Rcvd | Total number of direct transfer messages received. |
| Security Mode Command | Total number of security mode commands received. |
| Security Mode Complete | Total number of security mode completed. |
| Security Mode Reject | Total number of security mode commands rejected. |
| Iu Release Request | Total number of Iu interface release request received. |
| Iu Release Command | Total number of Iu interface release commands received. |
| Iu Release Complete | Total number of Iu interface release completed. |
| Reset Rcvd | Total number of reset requests received. |
| Retransmitted Reset Rcvd | Total number of retransmitted reset requests received. |
| Reset Ack Sent | Total number of reset request acknowledgement sent. |
| Reset Sent | Total number of reset requests sent. |
| Retransmitted Reset Sent | Total number of reset requests retransmitted. |
| Reset Ack Rcvd | Total number of reset request acknowledgement received. |
| Resource Reset Rcvd | Total number of resource reset requests received. |

| Field | Description |
|----------------------------|--|
| Resource Reset Dropped | Total number of resource reset requests dropped as a result of throttling mechanism which handles flurries of such messages to the MMgr. |
| Resource Reset Ack Sent | Total number of resource reset request acknowledgement sent. |
| Resource Reset Sent | Total number of resource reset request sent. |
| Resource Reset Ack Rcvd | Total number of resource reset request acknowledgement received. |
| Overload ctrl Rcvd | Total number of resource overload control message received. |
| PC Congested Received | Total number of point code (PC) congested message received. |
| Error Indication Rcvd | Total number of error indication message received. |
| Error Indication Sent | Total number of error indication message sent. |
| Location Reporting Control | Total number of Location Reporting Control procedure messages sent from SGSN. |
| Location Report | Total number of messages sent with Location Report from SGSN. |
| Relocation Required | Total number of message received for Serving Radio Network Subsystem (SRNS) relocation required. |
| Relocation Command | Total number of message received with SRNS relocation command. |
| Relocation Request | Total number of SRNS relocation requests received. |
| Relocation Request Ack | Total number of SRNS relocation requests Ack sent. |
| Relocation Failure | Total number of SRNS relocation failure messages received. |
| Relocation Prep Failure | Total number of SRNS relocation preparation failure messages received. |
| Relocation Cancel | Total number of SRNS relocation cancel messages received. |
| Relocation Cancel Ack | Total number of SRNS relocation cancel acknowledge messages sent. |
| Relocation Detect | Total number of SRNS relocation detected. |
| Relocation Complete | Total number of SRNS relocation completed. |
| Forward SRNS Context Rcvd | Total number of SRNS contexts forward messages received. |
| Forward SRNS Context Sent | Total number of SRNS contexts forward messages sent. |
| NAS-PDU Stats | Indicates the statistics of PDUs for Non-Access Stratum (NAS) signalling procedure. |

| Field | Description |
|---------------------------|--|
| Received | Indicates the total all type of protocol data units received for NAS procedure. |
| Sent | Indicates the total all type of protocol data units sent for NAS procedure. |
| Total-Received-NAS-Pdu | Total all type of protocol data units received for NAS procedure. |
| Total-Sent-NAS-Pdu | Total all type of protocol data units sent for NAS signalling procedure. |
| GMM-Received-NAS-Pdu | Total protocol data units received by GPRS mobility management (GMM) service through NAS signalling procedure. |
| GMM-Sent-NAS-Pdu | Total protocol data units sent by GMM service through NAS signalling procedure. |
| SM-Recieved-NAS-Pdu | Total protocol data units received by Service Management (SM) service through NAS procedure. |
| SM-Sent-NAS-Pdu | Total protocol data units sent by SM service for NAS procedure. |
| SMS-Recieved-NAS-Pdu | Total number of SMS messages received by SGSN with NAS packet data unit (PDU). |
| SMS-Sent-NAS-Pdu | Total number of SMS messages sent by SGSN with NAS packet data unit (PDU). |
| UnIdentified-NAS-Pdu | Total number of unknown type PDUs received for NAS procedure. |
| Dropped NAS-PDUS | Indicates the statistics of protocol data units dropped for NAS procedure. |
| Total-Dropped-NAS-Pdu | Total number of PDUs dropped for NAS procedure. |
| Redirection Indication | This group indicates the statistics of counters related to Redirection indication reasons. |
| PLMN not allowed | Total number of redirections occurred due to requested PLMN not allowed for specific session. |
| Location area not allowed | Total number of redirections occurred due to requested Location Area not allowed for specific session. |
| Roaming not allowed in LA | Total number of redirections occurred due to roaming was not allowed in a location area for specific session. |
| No GPRS services in PLMN | Total number of redirections occurred due to non-availability of GPRS service in PLMN for specific session. |
| CS/PS co-ord required | Total number of redirections occurred as co-ordination between CS and PS service was missing for specific session. |

| Field | Description |
|-----------------------------|--|
| Unknown Reasons | Total number of redirections occurred for specific session due to reasons other than listed in this table. |
| Drop Reason | Indicates the statistics of NAS protocol data unit drop reasons. |
| Nas-Un-identified type | Total number of NAS-PDUs dropped due to unidentified type of PDU. |
| Nas-Invalid Remote Address | Total number of NAS-PDUs dropped due to invalid remote address in PDU. |
| Nas-NAS-PDU not present | Total number of NAS-PDUs dropped due to missing NAS information. |
| Nas-Invalid Local Address | Total number of NAS-PDUs dropped due to invalid local address in PDU. |
| Nas-From unknown RNC | Total number of NAS-PDUs dropped as PDU from unknown RNC. |
| Nas-From unknown RA | Total number of NAS-PDUs dropped as PDU from unknown routing area. |
| Nas-From unknown Subscriber | Total number of NAS-PDUs dropped as PDU from unknown subscriber. |
| Duplicate-iu-con-id | Total number of NAS-PDUs dropped as PDU contains duplicate Iu control identifier. |
| Iu-Con-id processing failed | The total number of PDUs dropped for NAS procedure as Iu connection id processing failed in procedure. |
| Nas-From unknown PLMN | The total number of PDUs dropped for NAS procedures as NAS signalling was requested from unknown PLMN. |
| Another iu or 2g available | The total number of PDUs dropped for NAS procedures as another Iu interface of 2G session was available for specific NAS signalling procedure. |
| Internal Errors | Indicates the statistics of NAS protocol data unit dropped due to internal errors. |
| Total-Internal-Errors | Total number of NAS PDU dropped due to internal errors. |
| Attach Requests Drops | Indicates the statistics of NAS PDU dropped due to attach request errors. |
| Memory Failures | Total number of NAS PDU dropped due to memory failures. |
| Decode Failures | Total number of NAS PDU dropped due to decoding failures. |
| Msg in Invalid state | Total number of NAS PDU dropped due to invalid state of message. |

| Field | Description |
|------------------------------------|--|
| Another Proc in Progress | Total number of NAS PDU dropped as another procedure is in progress. |
| Sent Msg Unavailable | Total number of NAS PDU dropped due to unavailability of sent messages. |
| Other Failures | Total number of NAS PDU dropped due to failures other than listed in this table. |
| Routing Area Update Requests Drops | Indicates the statistics of NAS PDU dropped due to routing area update request drops. |
| Memory Failures | Total number of NAS PDUs dropped due to routing area update request drops by memory failures. |
| Decode Failures | Total number of NAS PDUs dropped due to routing area update request drops by decoding failures. |
| Msg in Invalid state | Total number of NAS PDUs dropped due to routing area update request drops where message is not in valid state. |
| Another Proc in Progress | Total number of NAS PDUs dropped due to routing area update request drops where another procedure is in progress. |
| Sent Msg Unavailable | Total number of NAS PDUs dropped due to routing area update request drops where sent messages are not available. |
| Other Failures | Total number of NAS PDUs dropped due to routing area update request drops where reasons are other than listed in this table. |
| Detach Requests Drops | Indicates the statistics of NAS PDU dropped due to detach request drops. |
| Memory Failures | Total number of NAS PDUs dropped due to detach request drops by memory failures. |
| Decode Failures | Total number of NAS PDUs dropped due to detach request drops by decoding failures. |
| Msg in Invalid state | Total number of NAS PDUs dropped due to detach request drops where message is not in valid state. |
| Another Proc in Progress | Total number of NAS PDUs dropped due to detach request drops where another procedure is in progress. |
| Sent Msg Unavailable | Total number of NAS PDUs dropped due to detach request drops where sent messages are not available. |
| Other Failures | Total number of NAS PDUs dropped due to detach request drops where reasons are other than listed in this table. |
| Service Requests Drops | Indicates the statistics of NAS PDU dropped due to service request drops. |

| Field | Description |
|----------------------------------|--|
| Memory Failures | Total number of NAS PDUs dropped due to service request drops by memory failures. |
| Decode Failures | Total number of NAS PDUs dropped due to service request drops by decoding failures. |
| Msg in Invalid state | Total number of NAS PDUs dropped due to service request drops where message is not in valid state. |
| Another Proc in Progress | Total number of NAS PDUs dropped due to service request drops where another procedure is in progress. |
| Sent Msg Unavailable | Total number of NAS PDUs dropped due to service request drops where sent messages are not available. |
| Other Failures | Total number of NAS PDUs dropped due to service request drops where reasons are other than listed in this table. |
| SMS Message Drops | Indicates the statistics of NAS PDU dropped due to SMS Message drops. |
| Memory Failures | Total number of NAS PDUs dropped due to SMS Message drops by memory failures. |
| Decode Failures | Total number of NAS PDUs dropped due to SMS Message drops by decoding failures. |
| Msg in Invalid state | Total number of NAS PDUs dropped due to SMS Message drops where message is not in valid state. |
| Unexpected Message | Total number of NAS PDUs dropped due to SMS Message drops where reason as unexpected message arrived. |
| Other Drops | Indicates the statistics of NAS PDU dropped due to other drops. |
| Memory Failures | Total number of NAS PDUs dropped due to other drops by memory failures. |
| Decode Failures | Total number of NAS PDUs dropped due to other drops by decoding failures. |
| Msg in Invalid state | Total number of NAS PDUs dropped due to other drops where message is not in valid state. |
| Other Failures | Total number of NAS PDUs dropped due to other drops where reasons are other than listed in this table. |
| Iu cleared due to other failures | Indicates the statistics of causes for NAS PDU dropped due to Iu interface cleared by other failures. |
| Reset-received | Total number of NAS PDU dropped due to Iu interface cleared when reset message received. |

| Field | Description |
|----------------------------|--|
| Reset-resource-received | Total number of NAS PDU dropped due to Iu interface cleared when reset resource message received. |
| RNC-PC-Down | Total number of NAS PDU dropped due to Iu interface cleared by RNC and/or PC down. |
| Total Relocation Failure | This group displays the statistics of total relocation procedure failures. |
| Relocation Failure Causes | This group displays the statistics of relocation procedure failure causes. |
| RAB Preempted | Total number of relocation procedure failure occurred due to RAB Preempted cause. |
| Trelocoverall Expiry | Total number of relocation procedure failure occurred due to expiry of Relocation Overall timer. |
| Trelocprep Expiry | Total number of relocation procedure failure occurred due to expiry of Relocation Preparation timer. |
| Treloc complete Expiry | Total number of relocation procedure failure occurred due to expiry of Relocation Complete timer. |
| Tqueuing Expiry | Total number of relocation procedure failure occurred due to expiry of Relocation Queuing timer. |
| Relocation Triggered | Total number of relocation procedures failed due to triggering of another relocation procedure. |
| Unable to establ dur reloc | Total number of relocation procedures failed due to unable to establish the connection during relocation procedure. |
| Unknown Target RNC | Total number of relocation procedures failed due to unknown target RNC. |
| Relocation Cancelled | Total number of relocation procedures failed due to cancellation of relocation procedures. |
| Successful Relocation | Total number of relocation procedures failed due to successful completion of relocation procedure. |
| Req integ protec algo NS | Total number of relocation procedures failed due to required integrity protection algorithms in name server (NS) system. |
| Conflict with integ proc | Total number of relocation procedures failed due to conflict with integrity procedure. |
| Failure in Radio Intf Proc | Total number of relocation procedures failed due to failure in radio interface procedure. |
| Release due to UTRAN | Total number of relocation procedures failed due to RELEASE command from UTRAN. |

| Field | Description |
|----------------------------|--|
| User Inactivity | Total number of relocation procedures failed due to inactivity at user level. |
| Time Critical Relocation | Total number of relocation procedures failed due to time critical relocation procedure happened or triggered. |
| Requested Traffic Class NA | Total number of relocation procedures failed due to non-availability to requested traffic class for user session. |
| Invalid RAB Params value | Total number of relocation procedures failed due to invalid value in RAB parameters. |
| Requested Max Bit Rate NA | Total number of relocation procedures failed due to non-availability to requested MBR for user session in uplink and downlink direction. |
| Req Max Bit Rate NA for DL | Total number of relocation procedures failed due to non-availability to requested MBR for user session in downlink direction. |
| Req Max Bit Rate NA for UL | Total number of relocation procedures failed due to non-availability to requested MBR for user session in uplink direction. |
| Req Guaran Bit Rate NA | Total number of relocation procedures failed due to non-availability to requested GBR for user session in uplink and downlink direction. |
| Req Guaran Bit Rate NA DL | Total number of relocation procedures failed due to non-availability to requested GBR for user session in downlink direction. |
| Req Guaran Bit Rate NA UL | Total number of relocation procedures failed due to non-availability to requested GBR for user session in uplink direction. |
| Req Trans-delay not achiev | Total number of relocation procedures failed as requested transmission delay was not achieved. |
| Invalid RAB params comb | Total number of relocation procedures failed due to invalid combination in RAB parameters. |
| Cond violation for SDU | Total number of relocation procedures failed due to condition violation for service data unit (SDU). |
| Cond viol traff handling | Total number of relocation procedures failed due to condition violation in traffic handling. |
| Cond viol guaran bit rate | Total number of relocation procedures failed due to condition violation in GBR. |
| User plane vers no support | Total number of relocation procedures failed as user plan version is not supported. |

| Field | Description |
|--|---|
| Iu UP Failure | Total number of relocation procedures failed due to user plan failure in Iu interface. |
| TRELOCalloc Expiry | Total number of relocation procedures failed due to expiry to relocation timer. |
| Reloc Fail in Tgt system | Total number of relocation procedures failed due to relocation procedure failure in target system. |
| Invalid RAB ID | Total number of relocation procedures failed due to invalid RAB identifier. |
| No Remaining RAB | Total number of relocation procedures failed as no RAB was available for this procedure. |
| Interact with other proc | Total number of relocation procedures failed as system was interacting with other system procedures at the time of relocation trigger. |
| Repeated Integ Check Fail | Total number of relocation procedures failed due to repeated failure in integrity check. |
| Requested Req type not sup | Total number of relocation procedures failed as request type was not supported. |
| Request superseded | Total number of relocation procedures failed as relocation procedure request was superseded by another request. |
| UE gen signal conn release | Total number of relocation procedures failed as signal connection was released by UE. |
| Resource opt relocation | Total number of relocation procedures failed due to optimization of resource during relocation procedure. |
| Requested info not avail | Total number of relocation procedures failed as requested information for this procedure was not available. |
| Relocation desirable for radio reasons | Total number of relocation procedures failed as relocation was desirable for radio reasons and now not required. |
| Relocation no sup in tgt | Total number of relocation procedures failed as relocation procedure was not supported in target system. |
| Directed Retry | Total number of relocation procedures failed because system directed the Retry command. |
| Radio conn with UE lost | Total number of relocation procedures failed due to radio connection lost with UE. |
| RNC unabl to establish RFC | Total number of relocation procedures failed as RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE. |

| Field | Description |
|---|---|
| Deciphering keys not avail | Total number of relocation procedures failed due to non-availability of de-ciphering keys. |
| Dedicated Assist data NA | Total number of relocation procedures failed because RNC is not able to successfully deliver the requested dedicated assistance data to the UE. |
| Relocation tgt not allow | Total number of relocation procedures failed as relocation is not allowed on the target system. |
| Location report congestion | Total number of relocation procedures failed due to congestion status in location report. |
| Reduce load in serving cel | Total number of relocation procedures failed as system was reducing load in service cell. |
| No radio res in tgt cell | Total number of relocation procedures failed due to no radio resource was available in target cell. |
| GERAN Iu-mode failure | Total number of relocation procedures failed as the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN. |
| Access restricted due to shared nws | Total number of relocation procedures failed as access to target system restricted due to shared networks. |
| Incoming relocation no support due to PUESBINE | Total number of relocation procedures failed as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature. |
| Load in tgt great than src | Total number of relocation procedures failed because the target cell's traffic load is higher than that in the source cell. |
| MBMS-No multicast for UE | Total number of relocation procedures failed because the UE does not have any active multicast service. |
| MBMS-Unknown UE ID | Total number of relocation procedures failed because the CN does not know the UE or unknown UE identifier. |
| MBMS session start success no data bearer necessary | Total number of relocation procedures failed because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE. |
| MBMS-supersede due to NNSF | Total number of relocation procedures failed as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node. |
| MBMS-UE link already done | Total number of relocation procedures failed because the UE has already been linked to the given Multicast service |
| MBMS-UE delink failure | Total number of relocation procedures failed because the UE had not been linked to the given Multicast service. |

| Field | Description |
|---|---|
| TMGI Unknown | Total number of relocation procedures failed due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown. |
| IP Multicast addr & APN invalid | Total number of relocation procedures failed due to requested MBMS registration failed as the IP Multicast Address and APN are not valid. |
| MBMS deregistration reject | Total number of relocation procedures failed as the MBMS De-registration was rejected because of implicit registration. |
| MBMS-Request superseded | Total number of relocation procedures failed as MBMS Registration or De-registration was superseded due to another ongoing procedure. |
| MBMS Dereg during sess nal | Total number of relocation procedures failed as MBMS De-registration is not allowed during the MBMS session. |
| MBMS-No data bearer necess | Total number of relocation procedures failed as the RNC no longer have any UEs interested in the MBMS data bearer. |
| Periodic Loc info no avail | Total number of relocation procedures failed as no UE position estimate or location information was available when the periodic report was triggered. |
| GTP resources unavailable | Total number of relocation procedures failed as the RNC initiates RAB Release Request procedure when GTP resource was not available and error cause value, if it received, with a GTP-U error indication. |
| TMGI in use and overlap MBMS srvc in area | Total number of relocation procedures failed as the RNC has an MBMS Session up and running with that Temporary Mobile Group Identity (TMGI) and a parallel MBMS session with the same TMGI in another overlapping MBMS Service Area is not allowed. |
| MBMS-no cell in MBMS area | Total number of relocation procedures failed as the RNC does not have any cell of the indicated MBMS Service Area. |
| No Iu CS UP relocation | Total number of relocation procedures failed as the relocation is triggered by CS call and the source RNC has no Iu CS user plane. |
| Successful MBMS sess start IP MC bearer established | Total number of relocation procedures failed because the MBMS Session Start procedure was successfully performed and IP multicast bearer already established. |
| CS Fallback triggered | Total number of relocation procedures failed as CS fallback to support earlier version of service triggered. |
| Unknown | Total number of relocation procedures failed due to reasons not listed in this table or unknown to system. |

| Field | Description |
|------------------------------|---|
| Miscellaneous Statistics | Indicates the miscellaneous statistics of causes for NAS PDU dropped. |
| Mismatching PTMSI signatures | Indicates the statistics of number of NAS PDU dropped due to mismatch in P-TMSI signatures. |
| Total-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures for attach and detach procedures. |
| Total-Att-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 2G and 3G service. |
| 3G-Att-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 3G service. |
| 2G-Att-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 2G service. |
| Total-Det-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 2G and 3G service. |
| 3G-Det-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 3G service. |
| 2G-Det-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 2G service. |
| Total-Rau-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 2G and 3G service. |
| 3G-Rau-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 3G service. |
| 2G-Rau-PTMSI-Sig-Mismatch | Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 2G service. |
| Auth Triplets Reuse Counter | <p>Description: Total authentication triplet reuse by SGSN.</p> <p>SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration.</p> <p>Triggers: Increments when the SGSN sends Auth Request to MS with total triplet reuse of vectors (2G and 3G) for the above condition.</p> <p>Availability: per RA, per RNC, per GPRS/SGSN service</p> |

| Field | Description |
|---|---|
| 3G-Auth Triplets Reuse | <p>Description: Total authentication triplet reuse for 3G service.</p> <p>SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration.</p> <p>Triggers: Increments when the SGSN sends Auth Request to MS with 3G triplet reuse of vector for the above condition.</p> <p>Availability: per RA, per RNC, per SGSN service</p> |
| 2G-Auth Triplets Reuse | <p>Description: Total authentication triplet reuse for 2G service.</p> <p>SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration.</p> <p>Triggers: Increments when the SGSN sends Auth Request to MS with 2G triplet reuse of vector for the above condition.</p> <p>Availability: per RA, per RNC, per GPRS service</p> |
| New Connection rejected due to overload | Total number of NAS PDU dropped as new connection rejected due to overload. |
| Rnc Overload Statistics | Indicates the RNC overload statistics. |
| Total Procedures Rejected due to overload | Total number of procedures rejected due to overload at RNC. |
| Dropped Attaches | Total number of attach procedures dropped due to overload at RNC. |
| Dropped Serv-req(data) | Total number of service request procedures dropped due to overload at RNC. |
| Skipped Ptmsi reallocations | Total number of P-TMSI reallocation requests skipped due to overload at RNC. |
| Skipped Authentication | Total number of authentication procedures skipped due to overload at RNC. |
| GPRS MOCN Attach Statistics | |
| Total Redirection Attempts Rcvd: | |
| Redirection attempts rcvd with bssgp imsi: | |
| Redirection attempts rcvd without bssgp imsi: | |
| Total Redirection Completes Sent | |
| Successful Redirection completes sent | |
| Failure Redirection completes sent | |

| Field | Description |
|---|--|
| Total Redirection Indications Sent | |
| Illegal LA | |
| No roamin | |
| No gprs PLMN | |
| No cell in LA | |
| CS/PS Coord Rqrd | |
| Others | |
| GPRS MOCN RAU Statistics | |
| Total Redirection Attempts Rcvd | |
| Redirection attempts rcvd with bssgp imsi: | |
| Redirection attempts rcvd without bssgp imsi: | |
| Total Redirection Completes Sent: | |
| Successful Redirection completes sent | |
| Failure Redirection completes sent | |
| Total Redirection Indications Sent | |
| Illegal PLMN | |
| Illegal LA | |
| No roaming | |
| No gprs PLMN | |
| No cell in LA | |
| CS/PS Coord Rqrd | |
| Others | |
| SMS Error Stats | |
| CP-ERROR (Tx) | Total number of control program errors sent (in upload direction) for short message service (SMS). |
| Congestion | Total number of control program errors sent (in upload direction) for short message service (SMS) due to congestion. |

| Field | Description |
|---|--|
| Invalid Mandatory Info | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid information in mandatory field. |
| Invalid Message Type | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid message type. |
| Invalid semantic | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid semantic in message. |
| Invalid Protocol State | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid state of protocol in message. |
| Invalid IE | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid information element in message. |
| Protocol Error | Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid protocol error. |
| Network Overload Protection | |
| Attach requests queued in the pacing queue | Total number of attach requests queued in the pacing queue by network overload protection function. |
| Inter SGSN RAU requests queued in the pacing queue | Total number of Inter SGSN RAU requests queued in the pacing queue by network overload protection function. |
| Number of Inter SGSN RAU and Attach requests in the pacing queue | Total number of Inter SGSN RAU and attach requests queued in the pacing queue by network overload protection function. |
| Attach requests successfully dequeued from the pacing queue | Total number of attach requests successfully removed from the pacing queue by network overload protection function. |
| Inter SGSN RAU requests successfully dequeued from the pacing queue | Total number of Inter SGSN RAU requests successfully removed from the pacing queue by network overload protection function. |
| Attaches rejected | Total number of attach requests rejected by network overload protection function. |
| Inter SGSN RAUs rejected | Total number of Inter SGSN RAUs requests rejected by network overload protection function. |
| Attaches dropped | Total number of attach requests dropped by network overload protection function. |
| Inter SGSN RAUs dropped | Total number of Inter SGSN RAUs requests dropped by network overload protection function. |
| Attaches discarded due to excess wait time in the pacing queue | Total number of attach requests discarded by network overload protection function due to excess wait time in the pacing queue. |

| Field | Description |
|---|--|
| Inter SGSN RAUs discarded due to excess wait time in the pacing queue | Total number of Inter SGSN RAUs requests discarded by network overload protection function due to excess wait time in the pacing queue. |
| Session Management Messages Statistics | |
| Activate Context Request | Indicates the statistics of context activate request in session management service. |
| Total-Actv-Request | Total number of request messages received for 2G and 3G context activation including primary and secondary. |
| 3G-Actv-Request | Total number of request messages received for 3G context activation including primary and secondary. |
| 2G-Actv Request | Total number of request messages received for 2G context activation including primary and secondary. |
| Primary-Actv-Request | Total number of request messages received for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Request | Total number of request messages received for 3G primary context activation. |
| 2G-Primary-Actv-Request | Total number of request messages received for 2G primary context activation. |
| Secondary-Actv-Request | Total number of request messages received for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Request | Total number of request messages received for 3G secondary context activation. |
| 2G-Secondary-Actv-Request | Total number of request messages received for 2G secondary context activation. |
| Actv-Request-Nrpca | Total number of Network Requested PDP Context Activation request messages received from GGSN. |
| Active-Request-Nrspca | Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1. |
| 3G-Actv-Request-Nrspca | Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in UMTS access). |
| 2G-Actv-Request-Nrspca: | Total number of "Secondary Activate PDP Context Request" from MS with Ti flag = 1 (in GPRS access). |
| Activate Context Request Retransmitted | These counters indicates the retransmitted (received message as same as previous) Activate Secondary PDP Context Requests received from MS with Ti flag = 1. Retransmitted messages are dropped by SGSN. |

| Field | Description |
|-------------------------------|--|
| 3G-Primary-Actv-drop | Total number of Activate Primary PDP Context Requests that were dropped (in UMTS access). |
| 2G-Primary-Actv-Drop | Total number of Activate Primary PDP Context Requests that were dropped (in GPRS access). |
| 3G-Secondary-Actv-Drop | Total number of Activate Secondary PDP Context Requests that were dropped (in UMTS access). |
| 2G-Secondary-Actv-Drop | Total number of Activate Secondary PDP Context Requests that were dropped (in GPRS access). |
| 3G-Secondary-Actv-Drop-Nrspca | Total number of Network Requested Secondary PDP Context Requests that were dropped (in UMTS access). |
| 2G-Secondary-Actv-Drop-Nrspca | Total number of Network Requested Secondary PDP Context Requests that were dropped (in GPRS access) |
| Activate Context Accept | Indicates the statistics of context activate request accepted in session management service. |
| Total-Actv-Accept | Total number of request messages accepted for 2G and 3G context activation including primary and secondary type. |
| 3G-Actv-Accept | Total number of request messages accepted for 3G context activation including primary and secondary type. |
| 2G-Actv Accept | Total number of request messages accepted for 2G context activation including primary and secondary type. |
| Primary-Actv-Accept | Total number of request messages accepted for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Accept | Total number of request messages accepted for 3G primary context activation. |
| 2G-Primary-Actv-Accept | Total number of request messages accepted for 2G primary context activation. |
| Secondary-Actv-Accept | Total number of request messages accepted for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Accept | Total number of request messages accepted for 3G secondary context activation. |
| 2G-Secondary-Actv-Accept | Total number of request messages accepted for 2G secondary context activation. |
| Actv-Accept-Nrspca | Total number of Secondary Activate PDP Context Accept messages to MS with Ti flag = 1. |
| 3G-Act-Accept-Nrspca | Total number of Secondary Activate PDP Context Accept messages sent to MS with Ti flag = 1 (in UMTS access) |

| Field | Description |
|--------------------------|--|
| 2G-Actv-Accept-Nrspca | Total number of Secondary Activate PDP Context Accept messages sent to MS with Ti flag = 1 (in GPRS access) |
| Activate Context Reject | Indicates the statistics of request messages rejected for 2G and 3G context activation including primary and secondary type. |
| Total-Actv-Reject | Total number of request messages rejected for 2G and 3G context activation including primary and secondary type. |
| 3G-Actv-Reject | Total number of request messages rejected for 3G context activation including primary and secondary type. |
| 2G-Actv-Reject | Total number of request messages rejected for 2G context activation including primary and secondary type. |
| Primary-Actv-Reject | Total number of request messages rejected for 2G and 3G primary context activation. |
| 3G-Primary-Actv-Reject | Total number of request messages rejected for 3G primary context activation. |
| 2G-Primary-Actv-Reject | Total number of request messages rejected for 2G primary context activation. |
| Secondary-Actv-Reject | Total number of request messages rejected for 2G and 3G secondary context activation. |
| 3G-Secondary-Actv-Reject | Total number of request messages rejected for 3G secondary context activation. |
| Actv-Reject-Nrspca | Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1. |
| 3G-Actv-Reject-Nrspca | Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1 (in UMTS access) |
| 2G-Actv-Reject-Nrspca | Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1 (in GPRS access) |
| 2G-Secondary-Actv-Reject | Total number of request messages rejected for 2G secondary context activation. |
| Activate Context Failure | |
| Total-Actv-Failure | Total number of combined primary and secondary PDP context activation failures for 2G and 3G services. |
| 3G-Actv-Failure | Total number of PDP context activation failures for 3G services. |
| 2G-Actv Failure | Total number of PDP context activation failures for 2G services. |
| Internal Failure | Total number of PDP context activation failures for 2G services due to internal failures. |

| Field | Description |
|--|---|
| Ongoing Procedure | Total number of PDP context activation failures for 2G services due to ongoing procedure collisions. |
| Primary-Actv-Failure | Total number of primary PDP context activation failures for 2G and 3G services. |
| 3G-Primary-Actv-Failure | Total number of primary PDP context activation failures for 3G services. |
| 2G-Primary-Actv-Failure | Total number of primary PDP context activation failures for 2G services. |
| Internal Failure | Total number of primary PDP context activation failures for 2G services due to internal failures. |
| Ongoing Procedure | Total number of primary PDP context activation failures for 2G services due to ongoing procedure collisions. |
| Secondary-Actv-Failure | Total number of secondary PDP context activation failures for 2G and 3G services. |
| 3G-Secondary-Actv-Failure | Total number of secondary PDP context activation for 3G service failed. |
| 2G-Secondary-Actv-Failure | Total number of secondary PDP context activation failures for 2G services. |
| Internal Failure | Total number of secondary PDP context activation failures for 2G services due to internal failures. |
| Ongoing Procedure | Total number of secondary PDP context activation failures for 2G services due to ongoing procedure collisions. |
| 2G-Activation-Internal-Failure-Causes | |
| Resource Alloc Fail | Total number of 2G context activation failures due to internal failures of cause type 'resource allocation failure'. |
| CPC Send Fail | Total number of 2G context activation failures due to internal failures of cause type 'CPC send failure'. |
| Secondary Pdp Context Activation Request Ignored | Total number of Secondary PDP Context Activation Requests that were ignored. (verbose mode only) |
| Total-Actv-Request-Nrspca-Ignored | Total number of Network Requested Secondary PDP Context Activation Requests that were ignored. |
| 3G-Actv-Request-Nrspca-Ignored | Total number of NRSPCA 3G context activation failures due to internal failures of cause type 'resource allocation failure'. |
| Activate Primary PDP Context Denied | |

| Field | Description |
|--------------------------------|--|
| 3G-Operator Determined Barring | Total number of requests to activate primary PDP context for 3G service rejected due to operator determined barring. |
| 2G-Operator Determined Barring | Total number of requests to activate primary PDP context for 2G service rejected due to operator determined barring. |
| 3G-Insufficient Resources | Total number of requests to activate primary PDP context for 3G service rejected due to insufficient resources. |
| 2G-Insufficient Resources | Total number of requests to activate primary PDP context for 2G service rejected due to insufficient resources. |
| 3G-Network Failure | Total number of requests to activate primary PDP context for 3G service rejected due to network failure. |
| 2G-Network Failure | Total number of requests to activate primary PDP context for 2G service rejected due to network failure. |
| 3G-Mising or Unknow APN | Total number of requests to activate primary PDP context for 3G service rejected due to missing or unknown APN in request message. |
| 2G-Mising or Unknow APN | Total number of requests to activate primary PDP context for 2G service rejected due to missing or unknown APN in request message. |
| 3G-Unknown PDP Addr/type | Total number of requests to activate primary PDP context for 3G service rejected due to unknown type/address in request. |
| 2G-Unknown PDP Addr/type | Total number of requests to activate primary PDP context for 2G service rejected due to unknown type/address in request. |
| 3G-User Auth Failed | Total number of requests to activate primary PDP context for 3G service rejected due to failure in user authentication. |
| 2G-User Auth Failed | Total number of requests to activate primary PDP context for 2G service rejected due to failure in user authentication. |
| 3G-Rejected By GGSN | Total number of requests to activate primary PDP context for 3G service rejected as request rejected by the GGSN. |
| 2G-Rejected By GGSN | Total number of requests to activate primary PDP context for 2G service rejected as request rejected by the GGSN. |
| 3G-Unspecified Error | Total number of requests to activate primary PDP context for 3G service rejected due to error which is not specified in this table or unknown. |
| 2G-Unspecified Error | Total number of requests to activate primary PDP context for 2G service rejected due to error which is not specified in this table or unknown. |

| Field | Description |
|---------------------------------|---|
| 3G-Svc Option Not Supported | Total number of requests to activate primary PDP context for 3G service rejected as requested service is not supported. |
| 2G-Svc Option Not Supported | Total number of requests to activate primary PDP context for 2G service rejected as requested service is not supported. |
| 3G-Svc Opt Not Subscribed | Total number of requests to activate primary PDP context for 3G service rejected as subscriber is not subscriber to requested service. |
| 2G-Svc Opt Not Subscribed | Total number of requests to activate primary PDP context for 2G service rejected as subscriber is not subscriber to requested service. |
| 3G-Svc Opt Tmp Out of Order | Total number of requests to activate primary PDP context for 3G service rejected as requested service option is temporarily out of order. |
| 2G-Svc Opt Tmp Out of Order | Total number of requests to activate primary PDP context for 2G service rejected as requested service option is temporarily out of order. |
| 3G-APN-Restriction Incompatible | Total number of requests to activate primary PDP context for 3G service rejected due to restriction of aPN or incompatibility of APN for service. |
| 2G-APN-Restriction Incompatible | Total number of requests to activate primary PDP context for 2G service rejected due to restriction of aPN or incompatibility of APN for service. |
| 3G-Semantically Incorrect | Total number of requests to activate primary PDP context for 3G service rejected due to semantically incorrect message. |
| 2G-Semantically Incorrect | Total number of requests to activate primary PDP context for 2G service rejected due to semantically incorrect message. |
| 3G-Invalid Mandatory Info | Total number of requests to activate primary PDP context for 3G service rejected as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of requests to activate primary PDP context for 2G service rejected as mandatory information in message is invalid. |
| 3G-Msg Non Existent | Total number of requests to activate primary PDP context for 3G service rejected due to non-existent type of message. |
| 2G-Msg Non Existent | Total number of requests to activate primary PDP context for 2G service rejected due to non-existent type of message. |
| 3G-IE Non Existent | Total number of requests to activate primary PDP context for 3G service rejected due to non-existence of information element. |
| 2G-IE Non Existent | Total number of requests to activate primary PDP context for 2G service rejected due to non-existence of information element. |

| Field | Description |
|---------------------------------------|--|
| 3G-Conditional IE Error | Total number of requests to activate primary PDP context for 3G service rejected due to error in conditional information element. |
| 2G-Conditional IE Error | Total number of requests to activate primary PDP context for 2G service rejected due to error in conditional information element. |
| 3G-Msg Not Compatible with State | Total number of requests to activate primary PDP context for 3G service rejected as message type is not compatible with protocol state. |
| 2G-Msg Not Compatible with State | Total number of requests to activate primary PDP context for 2G service rejected as message type is not compatible with protocol state. |
| 3G-Recovery on Timer Expiry | Total number of requests to activate primary PDP context for 3G service rejected as timer expired for recovery. |
| 2G-Recovery on Timer Expiry | Total number of requests to activate primary PDP context for 2G service rejected as timer expired for recovery. |
| 3G-Proto Err Unspecified | Total number of requests to activate primary PDP context for 3G service rejected due to unspecified protocol error. |
| 2G-Proto Err Unspecified | Total number of requests to activate primary PDP context for 2G service rejected due to unspecified protocol error. |
| Activate Secondary PDP Context Denied | Indicates the statistics of reason to deny secondary PDP context activation for 2G and 3G service denied. |
| 3G-Operator Determined Barring | Total number of requests to activate primary PDP context for 3G service rejected due to operator determined barring. |
| 2G-Operator Determined Barring | Total number of requests to activate primary PDP context for 2G service rejected due to operator determined barring. |
| 3G-Insufficient Resources | Total number of requests to activate secondary PDP context for 3G service rejected due to insufficient resources. |
| 2G-Insufficient Resources | Total number of requests to activate secondary PDP context for 2G service rejected due to insufficient resources. |
| 3G-Rej By Ggsn | Total number of requests to activate secondary PDP context for 3G service rejected as request rejected by the GGSN. |
| 2G-Rej By Ggsn | Total number of requests to activate secondary PDP context for 2G service rejected as request rejected by the GGSN. |
| 3G-Actv Rej Unspecified | Total number of requests to activate secondary PDP context for 3G service rejected due to error which is not specified in this table or unknown. |

| Field | Description |
|--------------------------------|---|
| 2G-Actv Rej Unspecified | Total number of requests to activate secondary PDP context for 2G service rejected due to error which is not specified in this table or unknown. |
| 3G-Svc Opt Not Supported | Total number of requests to activate secondary PDP context for 3G service rejected as requested service option is not supported. |
| 2G-Svc Opt Not Supported | Total number of requests to activate secondary PDP context for 2G service rejected as requested service option is not supported. |
| 3G-Svc Opt Not Subscribed | Total number of requests to activate secondary PDP context for 3G service rejected as subscriber is not subscriber to requested service. |
| 2G-Svc Opt Not Subscribed | Total number of requests to activate secondary PDP context for 2G service rejected as subscriber is not subscriber to requested service. |
| 3G-Svc Option Tmp Out Of Order | Total number of requests to activate secondary PDP context for 3G service rejected as requested service option is temporarily out of order. |
| 2G-Svc Option Tmp Out Of Order | Total number of requests to activate secondary PDP context for 2G service rejected as requested service option is temporarily out of order. |
| 3G-Sem Error In TFT Op | Total number of requests to activate secondary PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation. |
| 2G-Sem Error In TFT Op | Total number of requests to activate secondary PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation. |
| 3G-Syn Error In TFT Op | Total number of requests to activate secondary PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation. |
| 2G-Syn Error In TFT Op | Total number of requests to activate secondary PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation. |
| 3G-Unknown Ctx | Total number of requests to activate secondary PDP context for 3G service rejected due to unknown PDP context name in request message. |
| 2G-Unknown Ctx | Total number of requests to activate secondary PDP context for 2G service rejected due to unknown PDP context name in request message. |
| 3G-Sem Error In Pkt Filter | Total number of requests to activate secondary PDP context for 3G service rejected due to semantic error in packet filter. |

| Field | Description |
|----------------------------------|---|
| 2G-Sem Error In Pkt Filter | Total number of requests to activate secondary PDP context for 2G service rejected due to semantic error in packet filter. |
| 3G-Syn Errors In Pkt Filter | Total number of requests to activate secondary PDP context for 3G service rejected due to syntax error in packet filter. |
| 2G-Syn Errors In Pkt Filter | Total number of requests to activate secondary PDP context for 2G service rejected due to syntax error in packet filter. |
| 3G-Ctx No-TFT Already Actv | Total number of requests to activate secondary PDP context for 3G service rejected as no TFT is active for subscriber. |
| 2G-Ctx No-TFT Already Actv | Total number of requests to activate secondary PDP context for 2G service rejected as no TFT is active for subscriber. |
| 3G-Sem Incorrect Msg | Total number of requests to activate secondary PDP context for 3G service rejected due to semantically incorrect message. |
| 2G-Sem Incorrect Msg | Total number of requests to activate secondary PDP context for 2G service rejected due to semantically incorrect message. |
| 3G-Invalid Mandatory Info | Total number of requests to activate secondary PDP context for 3G service rejected as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of requests to activate secondary PDP context for 2G service rejected as mandatory information in message is invalid. |
| 3G-Msg Non Existent | Total number of requests to activate secondary PDP context for 3G service rejected due to non-existent type of message. |
| 2G-Msg Non Existent | Total number of requests to activate secondary PDP context for 2G service rejected due to non-existent type of message. |
| 3G-IE Non Existent | Total number of requests to activate secondary PDP context for 3G service rejected due to non-existence of information element. |
| 2G-IE Non Existent | Total number of requests to activate secondary PDP context for 2G service rejected due to non-existence of information element. |
| 3G-Conditional IE error | Total number of requests to activate secondary PDP context for 3G service rejected due to error in conditional information element. |
| 2G-Conditional IE error | Total number of requests to activate secondary PDP context for 2G service rejected due to error in conditional information element. |
| 3G-Msg Not Compatible with State | Total number of requests to activate secondary PDP context for 3G service rejected as message type is not compatible with protocol state. |

| Field | Description |
|---|---|
| 2G-Msg Not Compatible with State | Total number of requests to activate secondary PDP context for 2G service rejected as message type is not compatible with protocol state. |
| 3G-Recovery on Timer Expiry | Total number of requests to activate secondary PDP context for 3G service rejected as timer expired for recovery. |
| 2G-Recovery on Timer Expiry | Total number of requests to activate secondary PDP context for 2G service rejected as timer expired for recovery. |
| 3G-Proto Err Unspecified | Total number of requests to activate secondary PDP context for 3G service rejected due to unspecified protocol error. |
| 2G-Proto Err Unspecified | Total number of requests to activate secondary PDP context for 2G service rejected due to unspecified protocol error. |
| Activate Context Failure Causes | Indicates the statistics of reasons for context activation procedures for 2G and 3G service. |
| 3G-Iu release before Activate over | Total number of context activation procedures rejected for 3G service due to Iu released before completion of activation procedure. |
| 3G-Guard Timer Expiry | Total number of PDP context activation for 3G failed due to guard timer expiry. |
| 2G-Guard Timer Expiry | Total number of PDP context activation for 2G failed due to guard timer expiry. |
| 3G-Duplicate Activation | Total number of PDP context activation for 3G failed due to duplicate request for activation. |
| 2G-Duplicate Activation | Total number of PDP context activation for 2G failed due to duplicate request for activation. |
| 3G-Failure due to Other Ongoing Procedure | Total number of PDP context activation for 3G failed as other activation procedure for same request is in progress. |
| 2G-Failure due to Other Ongoing Procedure | Total number of PDP context activation for 2G failed as other activation procedure for same request is in progress. |
| 3G-Tunnel Deactivation | Total number of PDP context activation for 3G failed as session tunnel deactivated. |
| 2G-Tunnel Deactivation | Total number of PDP context activation for 2G failed as session tunnel deactivated. |
| 3G-HandOff before Activate over | Total number of PDP context activation for 3G failed as handoff happened before activation procedure completed. |
| 2G-HandOff before Activate over | Total number of PDP context activation for 2G failed as handoff happened before activation procedure completed. |

| Field | Description |
|--------------------------------|---|
| 3G-Detach before Activate over | Total number of PDP context activation for 2G failed as detach procedure started before activation procedure completed. |
| 2G-Detach before Activate over | Total number of PDP context activation for 2G failed as detach procedure started before activation procedure completed. |
| 3G-Phase-2-Offload Failures | Description: This proprietary counter indicates the total number of PDP Activation failures due to Phase 2 offloading in 3G service. Triggers: Increments when PDP Activation fails due to Phase 2 offloading. Availability: per SGSN service, per RA, per RNC |
| 2G-Phase-2-Offload Failures | Description: This proprietary counter indicates the total number of PDP Activation failures due to Phase 2 offloading in 2G service. Triggers: Increments when PDP Activation fails due to Phase 2 offloading. Availability: per GPRS service, per RA |
| 3G-Invalid Msg Content | Total number of PDP context activation for 3G failed as request message contains invalid information. |
| 2G-Invalid Msg Content | Total number of PDP context activation for 2G failed as request message contains invalid information. |
| Duplicate Activate Request | Indicates the statistics of duplicate context activation requests for 2G and 3G service received. |
| Total-Dup-Actv Req Received | Total number of duplicate context activation requests for 2G and 3G service received. |
| Total-Dup-3G-Actv Req Received | Total number of duplicate context activation requests for 3G service received. |
| Total-Dup-2G-Actv Req Received | Total number of duplicate context activation requests for 2G service received. |
| 3G-Dup Req In PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 3G service in PDP activate state. |
| Duplicate TI | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate transaction identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI) for 3G service. |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 3G service in PDP active state with duplicate PDP address and access point name for 3G service. |

| Field | Description |
|------------------------------------|--|
| 2G-Dup Req In PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 2G service in PDP activate state. |
| Duplicate TI | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate transaction identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 2G service in PDP active state with duplicate PDP address and access point name. |
| 3G-Dup Req In NOT PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 3G service which are not in PDP active state. |
| Duplicate TI | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate transaction identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate PDP address and access point name. |
| 2G-Dup Req In NOT PDP-ACTIVE State | Indicates the statistics of duplicate context activation requests for 2G service which are not in PDP active state. |
| Duplicate TI | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate transaction identifiers (TIs). |
| Duplicate NSAPI | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI). |
| Duplicate PDP-Addr and APN | Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate PDP address and access point name. |
| Request Pdp Context Activation | Indicates the statistics of PDP context activation requests for 2G and 3G service. |
| Total-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 2G and 3G service. |

| Field | Description |
|---------------------------------------|--|
| 3G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 3G service. |
| 2G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests received for 2G service. |
| Retransmission | Indicates the statistics of PDP context activation requests retransmitted for 2G and 3G service. |
| Total-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests retransmitted for 2G and 3G service. |
| 3G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests retransmitted for 3G service. |
| 2G-Request-Pdp-Ctxt-Req | Total number of PDP context activation requests retransmitted for 2G service. |
| Request Pdp Context Activation Reject | Indicates the statistics of PDP context activation requests rejected for 2G and 3G service. |
| Total-Request-Pdp-Ctxt-Reject | Total number of PDP context activation requests rejected for 2G and 3G service. |
| 3G-Request-Pdp-Ctxt-Reject | Total number of PDP context activation requests rejected for 3G service. |
| 2G-Request-Pdp-Ctxt-Reject | Total number of PDP context activation requests rejected for 2G service. |
| Request Pdp Context Activation Denied | Indicates the statistics of PDP context activation requests Denied for 2G and 3G service. |
| 3G-Insufficient Resources | Total PDP context activation requests denied due to insufficient resources in 3G service. |
| 2G-Insufficient Resources | Total PDP context activation requests denied due to insufficient resources in 2G service. |
| 3G-Actv Rej Unspecified | Total PDP context activation requests denied due to unspecified reasons in 3G service. |
| 2G-Actv Rej Unspecified | Total PDP context activation requests denied due to unspecified reasons in 2G service. |
| 3G-Feature Not Supported | Total PDP context activation requests denied due to requested feature not supported in 3G service. |
| 2G-Feature Not Supported | Total PDP context activation requests denied due to requested feature not supported in 2G service. |
| 3G-Svc Opt Tmp Out of Order | Total PDP context activation requests denied due to service option was temporarily out of order in 3G service. |

| Field | Description |
|---|---|
| 2G-Svc Opt Tmp Out of Order | Total PDP context activation requests denied due to service option was temporarily out of order in 2G service. |
| Request Secondary Pdp Context Activation | This group of counters indicates the number of Request Secondary Context Activation messages sent to MS. The indicated count does include retransmissions. (verbose mode only). |
| Total-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages sent to MS. |
| 3G-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages sent to MS (UMTS access). |
| 2G-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages sent to MS (GPRS access). |
| Retransmission | This group of counters indicate the number of Request Secondary Context Activation messages retransmitted to MS. |
| Total-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages retransmitted to MS. |
| 3G-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages retransmitted to MS (UMTS access). |
| 2G-Request-Sec-Pdp-Ctxt-Req | Total number of Request Secondary PDP Context Activation messages retransmitted to MS (GPRS access). |
| Request Secondary PDP Context Activation Reject | This group of counters indicate the number of Request Secondary Context Activation Reject messages received from MS. |
| Total-Request-Sec-Pdp-Ctxt-Reject | Total number of Request Secondary PDP Context Activation Reject messages from MS. |
| 3G-Total-Request-Sec-Pdp-Ctxt-Reject | Total number of Request Secondary PDP Context Activation Reject messages from MS (UMTS access). |
| 2G-Total-Request-Sec-Pdp-Ctxt-Reject | Total number of Request Secondary PDP Context Activation Reject messages from MS (GPRS access). |
| Request Secondary PDP Context Activation Denied | This group of counters indicates the number of Request Secondary Context Activation Reject messages received from MS categorized under different SM causes. |
| 3G-Insufficient Resources | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "insufficient resources (26)" in UMTS access. |
| 3G-Actv Rej Unspecified | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, unspecified (31)" in UMTS access. |

| Field | Description |
|-----------------------------|--|
| 3G-Feature Not Supported | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "feature not supported (40)" in UMTS access. |
| 3G-Sem Error In TFT Op | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In TFT operation (44)" in UMTS access. |
| 3G-Syn Error In TFT Op | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In TFT operation (41)" in UMTS access |
| 3G-Unknown Ctx | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "unknown PDP context (43)" in UMTS access. |
| 3G-Sem Error In Pkt Filter | Total number of Request Secondary PDP Context Activation Reject from MS with cause "Semantic Errors In Pkt Filter(s) (44)" in UMTS access. |
| 3G-Syn Errors In Pkt Filter | Total number of Request Secondary PDP Context Activation Reject from MS with cause "Syntactical Errors In Pkt Filter(s) (45)" in UMTS access. |
| 3G-Ctx No-TFT Already Actv | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "PDP Ctx without TFT already activated (46)" in UMTS access. |
| 3G-Actv Rej BCM violation | Total number Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, BCM violation (48)" in UMTS access. |
| 3G-Proto Err | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "protocol errors (95-111)" in UMTS access. |
| 2G-Insufficient Resources | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "insufficient resources (26)" in GPRS access. |
| 2G-Actv Rej Unspecified | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, unspecified (31)" in GPRS access. |
| 2G-Feature Not Supported | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "feature not supported (40)" in GPRS access. |
| 2G-Sem Error In TFT Op | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In TFT operation (44)" in GPRS access. |

| Field | Description |
|--|---|
| 2G-Syn Error In TFT Op | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In TFT operation (41)" in GPRS access |
| 2G-Unknown Ctx | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "unknown PDP context (43)" in GPRS access. |
| 2G-Sem Error In Pkt Filter | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In Pkt Filter(s) (44)" in GPRS access. |
| 2G-Syn Errors In Pkt Filter | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In Pkt Filter(s) (45)" in GPRS access. |
| 2G-Ctx No-TFT Already | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "PDP Ctx without TFT already activated (46)" in GPRS access |
| 2G-Actv Rej BCM violation | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, BCM violation (48)" in GPRS access. |
| 2G-Proto Err | Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "protocol errors (95-111)" in GPRS access |
| Secondary PDP Context Activation Request Ignored | This group of counters indicate the number of Activate Secondary PDP Context Requests messages (from MS with Ti flag = 1) ignored by SGSN. (verbose mode only) |
| Total-Actv-Request-Nrspca-Ignored | Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 and PDP not in activation in progress state. |
| 3G-Actv-Request-Nrspca-Ignored | Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in UMTS access) and PDP not in activation in progress state. |
| 2G-Actv-Request-Nrspca-Ignored | Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in GPRS access) and PDP not in activation in progress state. |
| Network Initiated Secondary Activation Aborted | This group of counters indicates the number of NRSPCA procedures aborted/rejected by SGSN for various GMM/SM procedure collisions, before receiving any response from MS in response to a Request Secondary PDP Context Activation. |

| Field | Description |
|------------------------------------|---|
| 3G-NRSPCA-Abort-GTP-Suspend | Total number of NRSPCA procedures aborted in UMTS access due to GTP Suspend from peer SGSN or Suspend from BSC in GPRS access. IPCA Response with cause "MS is GPRS Suspended" is sent in this case. For S4-SGSN, CBR Response with cause "Unable to page UE due to Suspension" is sent. |
| 3G-NRSPCA-Abort-Handoff | Total number of NRSPCA procedures aborted in UMTS access by handoff to peer SGSN. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent. |
| 3G-NRSPCA-Abort-Max-Retry-Attempts | Total number of NRSPCA procedure aborted in UMTS access due to Request Secondary PDP context activation maximum retry attempts. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |
| 3G-NRSPCA-Abort-Paging-Expiry | Total number of NRSPCA procedure aborted in UMTS access due to Paging Expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |
| 3G-NRSPCA-Abort-Linked-Ctx-Deactv | Total number of NRSPCA procedures aborted in UMTS access due to linked Context or bundle deactivation. No IPCA Response is sent in this case. |
| 3G-NRSPCA-Abort-Linked-Ctx-Detach | Total number of NRSPCA procedures aborted in UMTS access due to Detach procedure. No IPCA Response is sent in this case. |
| 3G-NRSPCA-Abort-Inter-RAT-Handoff | Total number of NRSPCA procedures aborted in UMTS access due to inter-RAT RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent. |
| 3G-NRSPCA-Abort-Iu-release | Total number of NRSPCA procedures aborted in UMTS access due to Iu release. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |

| Field | Description |
|------------------------------|---|
| 3G-NRSPCA-Abort-SRNS-Handoff | <p>Total number of NRSPCA procedures aborted in UMTS access due to old SGSN SRNS. IPCA Response with cause "MS is not GPRS responding" is sent in this case.</p> <p>For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.</p> |
| 3G-NRSPCA-Abort-Intra-RAU | <p>Total number of NRSPCA procedures aborted in UMTS access due to intra RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case.</p> <p>For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.</p> |
| 3G-NRSPCA-Abort-Intra-SRNS | <p>Total number of NRSPCA procedures aborted in UMTS access due to local SRNS. IPCA Response with cause "MS is not GPRS responding" is sent in this case.</p> <p>For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.</p> |
| 3G-NRSPCA-Abort-RAB-Failure | <p>Total number of NRSPCA procedures aborted in UMTS access due to RAB failure.</p> <p>NOTE: This is applicable only for S4-SGSN as RAB setup needs to be completed before sending CBR Response. (In Gn/Gp IPCA Rsp and Create PDP procedure is completed before RAB setup).</p> <p>CBR Response with cause "No resources available" is sent.</p> |
| 3G-NRSPCA-Abort-Ctx-Deactv | <p>Total number of NRSPCA procedures aborted in UMTS access due to PDP deactivation events such as,</p> <ul style="list-style-type: none"> • GTPU Path failure during RAB establishment • RAB Release while waiting for RAB Assignment Response for other bearers in case of multiple bearers being activated in a single CBR Request • Iu release during RAB setup <p>NOTE: This is applicable only for S4-SGSN as RAB setup needs to be completed before sending CBR Response. (In Gn/Gp IPCA Rsp and Create PDP procedure is completed before RAB setup)</p> <p>CBR Response with cause "No resources available" is sent.</p> |
| 2G-NRSPCA-Abort-Subs-Suspend | <p>Total number of NRSPCA procedures aborted in GPRS access due to GTP Suspend from peer SGSN. IPCA Response with cause "MS is GPRS Suspended" is sent in this case.</p> <p>For S4-SGSN, CBR Response with cause "Unable to page UE due to Suspension" is sent.</p> |

| Field | Description |
|-----------------------------------|--|
| 2G-NRSPCA-Abort-Handoff | Total number of NRSPCA procedures aborted in GPRS access by handoff to peer SGSN. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent. |
| 2G-NRSPCA-Abort-T3385-Expiry | Total number of NRSPCA procedures aborted in GPRS access due T3385 timer expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |
| 2G-NRSPCA-Abort-Paging-Expiry | Total number of NRSPCA procedures aborted in GPRS access due to Paging Expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |
| 2G-NRSPCA-Abort-Linked-Ctx-Deactv | Total number of NRSPCA procedures aborted in GPRS access due to linked context or bundle deactivation. No IPCA Response is sent in this case. |
| 2G-NRSPCA-Abort-Linked-Ctx-Detach | Total number of NRSPCA procedures aborted in GPRS access due to Detach procedure. No IPCA Response is sent in this case. |
| 2G-NRSPCA-Abort-Inter-RAT-Handoff | Total number of NRSPCA procedures aborted in GPRS access due to intra-RAT RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent. |
| 2G-NRSPCA-Abort-Ready-Tmr-Expiry | Total number of NRSPCA procedure aborted in GPRS access due to ready timer expiry during NRSPCA activation. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |
| 2G-NRSPCA-Abort-Radio-Status | Total number of NRSPCA procedures aborted in GPRS access due Radio Status procedure from BSC during NRSPCA activation. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent. |

| Field | Description |
|------------------------------------|--|
| 2G-NRSPCA-Abort-BVC-Block-Or-Reset | Total number of NRSPCA procedures aborted in GPRS access due to BVC Block/Reset procedure from BSC during NRSPCA activation. IPCA Response with cause "No resources available" is sent in this case. For S4-SGSN, CBR Response with cause "No resources available" is sent. |
| Modify Context Request | Indicates the statistics of MS and network initiated PDP context modification requests received for 2G and 3G service. |
| Total-Modify-Request | Total number of MS and network initiated PDP context modification requests received for 2G and 3G service. |
| 3G-Modify-Request | Total number of MS and network initiated PDP context modification requests received for 3G service. |
| 2G-Modify Request | Total number of MS and network initiated PDP context modification requests received for 2G service. |
| Modify-Request Rx | Total number of MS initiated PDP context modification requests received for 2G and 3G service. |
| 3G-Modify-Request Rx | Total number of MS initiated PDP context modification requests received for 3G service. |
| 2G-Modify-Request Rx | Total number of MS initiated PDP context modification requests received for 2G service. |
| Modify-Request Tx | Total number of network initiated PDP context modification requests received for 2G and 3G service. |
| 3G-Modify-Request Tx | Total number of network initiated PDP context modification requests received for 3G service. |
| 2G-Modify-Request Tx | Total number of network initiated PDP context modification requests received for 2G service. |
| Retransmission | Indicates the statistics of network initiated PDP context modification requests retransmitted for 2G and 3G service. |
| Total-Modify-Request Tx | Total number of network initiated PDP context modification requests retransmitted for 2G and 3G service. |
| 3G-Modify-Request Tx | Total number of network initiated PDP context modification requests retransmitted for 3G service. |
| 2G-Modify-Request Tx | Total number of network initiated PDP context modification requests retransmitted for 2G service. |
| Modify Context Accept | Indicates the statistics of MS and network initiated PDP context modification requests accepted for 2G and 3G service. |

| Field | Description |
|-----------------------|--|
| Total-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 3G service. |
| 2G-Modify-Accept | Total number of MS and network initiated PDP context modification requests accepted for 2G service. |
| Modify-Accept Tx | Total number of MS initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-Modify-Accept Tx | Total number of MS initiated PDP context modification requests accepted for 3G service. |
| 2G-Modify-Accept Tx | Total number of MS initiated PDP context modification requests accepted for 2G service. |
| Modify-Accept Rx | Total number of network initiated PDP context modification requests accepted for 2G and 3G service. |
| 3G-Modify-Accept Rx | Total number of network initiated PDP context modification requests received for 3G service. |
| 2G-Modify-Accept Rx | Total number of network initiated PDP context modification requests accepted for 2G service. |
| Modify Context Reject | Indicates the statistics of MS and network initiated PDP context modification requests rejected for 2G and 3G service. |
| Total-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 3G service. |
| 2G-Modify-Reject | Total number of MS and network initiated PDP context modification requests rejected for 2G service. |
| Modify-Reject Tx | Total number of MS initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-Modify-Reject Tx | Total number of MS initiated PDP context modification requests rejected for 3G service. |
| 2G-Modify-Reject Tx | Total number of MS initiated PDP context modification requests rejected for 2G service. |
| Modify-Reject Rx | Total number of network initiated PDP context modification requests rejected for 2G and 3G service. |
| 3G-Modify-Reject Rx | Total number of network initiated PDP context modification requests rejected for 3G service. |

| Field | Description |
|--------------------------------|--|
| 2G-Modify-Reject Rx | Total number of network initiated PDP context modification requests rejected for 2G service. |
| Modify PDP Context Denied Tx | Indicates the reasons for denying MS initiated PDP context modifications for 2G and 3G services. |
| 3G-Insufficient Resources | Total number of MS initiated requests to modify PDP context for 3G service rejected due to insufficient resources. |
| 2G-Insufficient Resources | Total number of MS initiated requests to modify PDP context for 3G service rejected due to insufficient resources. |
| 3G-Svc Option Not Supported | Total number of MS initiated requests to modify PDP context for 3G service rejected as requested service option is not supported. |
| 2G-Svc Option Not Supported | Total number of MS initiated requests to modify PDP context for 2G service rejected as requested service option is not supported. |
| 3G-Sem Err in TFT OP | Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation. |
| 2G-Sem Err in TFT OP | Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation. |
| 3G-Syntactic Err in TFT OP | Total number of MS initiated requests to modify PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation. |
| 2G-Syntactic Err in TFT OP | Total number of MS initiated requests to modify PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation. |
| 3G-Sem Err in Pkt Filter | Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantic error in packet filter. |
| 2G-Sem Err in Pkt Filter | Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantic error in packet filter. |
| 3G-Syntactic Err in Pkt Filter | Total number of MS initiated requests to modify PDP context for 3G service rejected due to syntax error in packet filter. |
| 2G-Syntactic Err in Pkt Filter | Total number of MS initiated requests to modify PDP context for 2G service rejected due to syntax error in packet filter. |
| 3G-Sem Incorrect Msg | Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantically incorrect message. |
| 2G-Sem Incorrect Msg | Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantically incorrect message. |

| Field | Description |
|----------------------------------|--|
| 3G-Invalid Mandatory Info | Total number of MS initiated requests to modify PDP context for 3G service rejected as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of MS initiated requests to modify PDP context for 2G service rejected as mandatory information in message is invalid. |
| 3G-Msg Non Existent | Total number of MS initiated requests to modify PDP context for 3G service rejected due to non-existent type of message. |
| 2G-Msg Non Existent | Total number of MS initiated requests to modify PDP context for 2G service rejected due to non-existent type of message. |
| 3G-IE Non Existent | Total number of MS initiated requests to modify PDP context for 3G service rejected due to non-existence of information element. |
| 2G-IE Non Existent | Total number of MS initiated requests to modify PDP context for 2G service rejected due to non-existence of information element. |
| 3G-Conditional IE Error | Total number of MS initiated requests to modify PDP context for 3G service rejected due to error in conditional information element. |
| 2G-Conditional IE Error | Total number of MS initiated requests to modify PDP context for 2G service rejected due to error in conditional information element. |
| 3G-Msg Not Compatible with State | Total number of MS initiated requests to modify PDP context for 3G service rejected as message type is not compatible with protocol state. |
| 2G-Msg Not Compatible with State | Total number of MS initiated requests to modify PDP context for 2G service rejected as message type is not compatible with protocol state. |
| 3G-Recovery on Timer Expiry | Total number of MS initiated requests to modify PDP context for 3G service rejected as timer expired for recovery. |
| 2G-Recovery on Timer Expiry | Total number of MS initiated requests to modify PDP context for 2G service rejected as timer expired for recovery. |
| 3G-Proto Err Unspecified | Total number of MS initiated requests to modify PDP context for 3G service rejected due to unspecified protocol error. |
| 2G-Proto Err Unspecified | Total number of MS initiated requests to modify PDP context for 2G service rejected due to unspecified protocol error. |
| Modify PDP Context Rx | Indicates the statistics of reason to deny SGSN initiated PDP context modification for 2G and 3G service denied. |
| 3G-Insufficient Resources | Total number of SGSN initiated requests received to modify PDP context for 3G service rejected due to insufficient resources. |

| Field | Description |
|--------------------------------|--|
| 2G-Insufficient Resources | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to insufficient resources. |
| 3G-Svc Option Not Supported | Total number of SGSN initiated requests to modify PDP context for 3G service rejected as requested service option is not supported. |
| 2G-Svc Option Not Supported | Total number of SGSN initiated requests to modify PDP context for 2G service rejected as requested service option is not supported. |
| 3G-Sem Err in TFT OP | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation. |
| 2G-Sem Err in TFT OP | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation. |
| 3G-Syntactic Err in TFT OP | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation. |
| 2G-Syntactic Err in TFT OP | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation. |
| 3G-Sem Err in Pkt Filter | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantic error in packet filter. |
| 2G-Sem Err in Pkt Filter | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantic error in packet filter. |
| 3G-Syntactic Err in Pkt Filter | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to syntax error in packet filter. |
| 2G-Syntactic Err in Pkt Filter | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to syntax error in packet filter. |
| 3G-Sem Incorrect Msg | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantically incorrect message. |
| 2G-Sem Incorrect Msg | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantically incorrect message. |
| 3G-Invalid Mandatory Info | Total number of SGSN initiated requests to modify PDP context for 3G service rejected as mandatory information in message is invalid. |
| 2G-Invalid Mandatory Info | Total number of SGSN initiated requests to modify PDP context for 2G service rejected as mandatory information in message is invalid. |

| Field | Description |
|----------------------------------|--|
| 3G-Msg Non Existent | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to non-existent type of message. |
| 2G-Msg Non Existent | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to non-existent type of message. |
| 3G-IE Non Existent | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to non-existence of information element. |
| 2G-IE Non Existent | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to non-existence of information element. |
| 3G-Conditional IE Error | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to error in conditional information element. |
| 2G-Conditional IE Error | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to error in conditional information element. |
| 3G-Msg Not Compatible with State | Total number of SGSN initiated requests to modify PDP context for 3G service rejected as message type is not compatible with protocol state. |
| 2G-Msg Not Compatible with State | Total number of SGSN initiated requests to modify PDP context for 2G service rejected as message type is not compatible with protocol state. |
| 3G-Recovery on Timer Expiry | Total number of SGSN initiated requests to modify PDP context for 3G service rejected as timer expired for recovery. |
| 2G-Recovery on Timer Expiry | Total number of SGSN initiated requests to modify PDP context for 2G service rejected as timer expired for recovery. |
| 3G-Proto Err Unspecified | Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to unspecified protocol error. |
| 2G-Proto Err Unspecified | Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to unspecified protocol error. |
| Deactivate Context Request | Indicates the statistics of MS and network initiated PDP context deactivation requests received for 2G and 3G service. |
| Total-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 3G service. |
| 2G-Deactv-Request | Total number of MS and network initiated PDP context deactivation requests received for 2G service. |

| Field | Description |
|----------------------------|---|
| MS-Deactiv-Request | Total number of MS initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-MS-Deactiv-Request | Total number of MS initiated PDP context deactivation requests received for 3G service. |
| 2G-MS-Deactiv-Request | Total number of MS initiated PDP context deactivation requests received for 2G service. |
| SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests received for 3G service. |
| 2G-SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests received for 2G service. |
| HLR-Deactiv-Request | Total number of home location register (HLR) initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-HLR-Deactiv-Request | Total number of HLR initiated PDP context deactivation requests received for 3G service. |
| 2G-HLR-Deactiv-Request | Total number of HLR initiated PDP context deactivation requests received for 2G service. |
| GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests received for 2G and 3G service. |
| 3G-GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests received for 3G service. |
| 2G-GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests received for 2G service. |
| Retransmission | Indicates the statistics of network initiated PDP context deactivation requests retransmitted for 2G and 3G service |
| Total-SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests retransmitted for 2G and 3G service. |
| 3G-SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests retransmitted for 3G service. |
| 2G-SGSN-Deactiv-Request | Total number of SGSN initiated PDP context deactivation requests retransmitted for 2G service. |
| Total-HLR-Deactiv-Request | Total number of home location register (HLR) initiated PDP context deactivation requests retransmitted for 2G and 3G service. |
| 3G-HLR-Deactiv-Request | Total number of HLR initiated PDP context deactivation requests retransmitted for 3G service. |

| Field | Description |
|----------------------------|--|
| 2G-HLR-Deactiv-Request | Total number of HLR initiated PDP context deactivation requests retransmitted for 2G service. |
| Total-GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests retransmitted for 2G and 3G service. |
| 3G-GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests retransmitted for 3G service. |
| 2G-GGSN-Deactiv-Request | Total number of GGSN initiated PDP context deactivation requests retransmitted for 2G service. |
| Deactivate Context Accept | Indicates the statistics of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service. |
| Total-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 3G service. |
| 2G-Deactiv-Accept | Total number of MS and network initiated PDP context deactivation requests accepted for 2G service. |
| MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 3G service. |
| 2G-MS-Deactiv-Accept | Total number of MS initiated PDP context deactivation requests accepted for 2G service. |
| SGSN-Deactiv-Accept | Total number of SGSN initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-SGSN-Deactiv-Accept | Total number of SGSN initiated PDP context deactivation requests accepted for 3G service. |
| 2G-SGSN-Deactiv-Accept | Total number of SGSN initiated PDP context deactivation requests accepted for 2G service. |
| HLR-Deactiv-Accept | Total number of home location register (HLR) initiated PDP context deactivation requests accepted for 2G and 3G service. |
| 3G-HLR-Deactiv-Accept | Total number of HLR initiated PDP context deactivation requests accepted for 3G service. |
| 2G-HLR-Deactiv-Accept | Total number of HLR initiated PDP context deactivation requests accepted for 2G service. |
| GGSN-Deactiv-Accept | Total number of GGSN initiated PDP context deactivation requests accepted for 2G and 3G service. |

| Field | Description |
|---------------------------------|---|
| 3G-GGSN-Deactiv-Accept | Total number of GGSN initiated PDP context deactivation requests accepted for 3G service. |
| 2G-GGSN-Deactiv-Accept | Total number of GGSN initiated PDP context deactivation requests accepted for 2G service. |
| Deactivation Causes Rx | This group displays the statistics of PDP context deactivation causes received by SGSN. |
| 3G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 3G service network. |
| 2G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 2G service network. |
| 3G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network. |
| 2G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network. |
| 3G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SND CP) on Gb interface in 3G service network. |
| 2G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SND CP) on Gb interface in 2G service network. |
| 3G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 3G service network. |
| 2G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 2G service network. |
| 3G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 3G service network. |
| 2G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 2G service network. |
| 3G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network. |
| 2G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network. |
| 3G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 3G service network. |
| 2G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 2G service network. |

| Field | Description |
|----------------------------------|---|
| 3G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network. |
| 2G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network. |
| 3G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network. |
| 2G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network. |
| 3G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 3G service network. |
| 2G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 2G service network. |
| 3G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network. |
| 2G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network. |
| 3G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network. |
| 2G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network. |
| 3G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network. |
| 2G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network. |
| 3G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 3G service network. |
| 2G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 2G service network. |
| 3G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network. |
| 2G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network. |
| 3G-Network Failure | The PDP contexts deactivated due to network failure in 3G service network. |

| Field | Description |
|-----------------------------------|--|
| 2G-Network Failure | The PDP contexts deactivated due to network failure in 2G service network. |
| 3G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 3G service network. |
| 2G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 2G service network. |
| 3G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 3G service network. |
| 2G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 2G service network. |
| 3G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network. |
| 2G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network. |
| 3G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network. |
| 2G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network. |
| 3G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 3G service network. |
| 2G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 2G service network. |
| 3G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network. |
| 2G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network. |
| 3G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network. |
| 2G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network. |
| 3G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 3G service network. |
| 2G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 2G service network. |
| 3G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 3G service network. |

| Field | Description |
|----------------------------------|---|
| 2G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 2G service network. |
| 3G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 3G service network. |
| 2G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 2G service network. |
| 3G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 3G service network. |
| 2G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 2G service network. |
| 3G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network. |
| 2G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network. |
| 3G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 3G service network. |
| 2G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 2G service network. |
| 3G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 3G service network. |
| 2G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 2G service network. |
| 3G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 3G service network. |
| 2G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 2G service network. |
| 3G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network. |
| 2G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network. |
| 3G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network. |
| 2G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network. |
| 3G-Msg Not Comp With State | The PDP contexts deactivated due as received message was incompatible with session state in 3G service network. |

| Field | Description |
|---------------------------------|--|
| 2G-Msg Not Comp With State | The PDP contexts deactivated due as received message was incompatible with session state in 2G service network. |
| 3G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network. |
| 2G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network. |
| Deactivation Causes Tx | This group displays the statistics of PDP context deactivation causes sent by SGSN. |
| 3G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 3G service network. |
| 2G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 2G service network. |
| 3G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network. |
| 2G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network. |
| 3G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network. |
| 2G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network. |
| 3G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 3G service network. |
| 2G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 2G service network. |
| 3G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 3G service network. |
| 2G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 2G service network. |
| 3G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network. |
| 2G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network. |
| 3G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 3G service network. |

| Field | Description |
|----------------------------------|---|
| 2G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 2G service network. |
| 3G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network. |
| 2G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network. |
| 3G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network. |
| 2G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network. |
| 3G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 3G service network. |
| 2G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 2G service network. |
| 3G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network. |
| 2G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network. |
| 3G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network. |
| 2G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network. |
| 3G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network. |
| 2G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network. |
| 3G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 3G service network. |
| 2G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 2G service network. |
| 3G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network. |
| 2G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network. |

| Field | Description |
|-----------------------------------|--|
| 3G-Network Failure | The PDP contexts deactivated due to network failure in 3G service network. |
| 2G-Network Failure | The PDP contexts deactivated due to network failure in 2G service network. |
| 3G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 3G service network. |
| 2G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 2G service network. |
| 3G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 3G service network. |
| 2G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 2G service network. |
| 3G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network. |
| 2G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network. |
| 3G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network. |
| 2G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network. |
| 3G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 3G service network. |
| 2G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 2G service network. |
| 3G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network. |
| 2G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network. |
| 3G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network. |
| 2G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network. |
| 3G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 3G service network. |
| 2G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 2G service network. |

| Field | Description |
|----------------------------------|--|
| 3G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 3G service network. |
| 2G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 2G service network. |
| 3G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 3G service network. |
| 2G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 2G service network. |
| 3G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 3G service network. |
| 2G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 2G service network. |
| 3G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network. |
| 2G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network. |
| 3G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 3G service network. |
| 2G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 2G service network. |
| 3G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 3G service network. |
| 2G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 2G service network. |
| 3G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 3G service network. |
| 2G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 2G service network. |
| 3G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network. |
| 2G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network. |
| 3G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network. |
| 2G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network. |

| Field | Description |
|---------------------------------|--|
| 3G-Msg Not Comp With State | The PDP contexts deactivated due as received message was incompatible with session state in 3G service network. |
| 2G-Msg Not Comp With State | The PDP contexts deactivated due as received message was incompatible with session state in 2G service network. |
| 3G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network. |
| 2G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network. |
| SM Status Messages | This group displays the statistics of the service manager status messages for 2G and 3G service. |
| Total-SM-Status-Tx | Total number of service manager status messages sent for 2G and 3G service |
| 3G-SM-Status-Tx | Total number of service manager status messages sent for 3G service |
| 2G-SM-Status-Tx | Total number of service manager status messages sent for 2G service |
| Total-SM-Status-Rx | Total number of service manager status messages received for 2G and 3G service |
| 3G-SM-Status-Rx | Total number of service manager status messages received for 3G service |
| 2G-SM-Status-Rx | Total number of service manager status messages received for 2G service |
| SM Status Rcvd Causes | This group displays the statistics of session manager status messages received by SGSN. |
| 3G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 3G service network. |
| 2G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 2G service network. |
| 3G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network. |
| 2G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network. |
| 3G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network. |

| Field | Description |
|----------------------------------|--|
| 2G-Llc Or Sndcp Failure Gb Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network. |
| 3G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 3G service network. |
| 2G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 2G service network. |
| 3G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 3G service network. |
| 2G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 2G service network. |
| 3G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network. |
| 2G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network. |
| 3G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 3G service network. |
| 2G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 2G service network. |
| 3G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network. |
| 2G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network. |
| 3G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network. |
| 2G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network. |
| 3G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 3G service network. |
| 2G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 2G service network. |
| 3G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network. |
| 2G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network. |

| Field | Description |
|--------------------------------|---|
| 3G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network. |
| 2G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network. |
| 3G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network. |
| 2G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network. |
| 3G-Regular Deactiv | The PDP contexts deactivated due to periodic deactivation in 3G service network. |
| 2G-Regular Deactiv | The PDP contexts deactivated due to periodic deactivation in 2G service network. |
| 3G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network. |
| 2G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network. |
| 3G-Network Failure | The PDP contexts deactivated due to network failure in 3G service network. |
| 2G-Network Failure | The PDP contexts deactivated due to network failure in 2G service network. |
| 3G-Reactiv Required | The PDP contexts deactivated as reactivation was required for PDP context in 3G service network. |
| 2G-Reactiv Required | The PDP contexts deactivated as reactivation was required for PDP context in 2G service network. |
| 3G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 3G service network. |
| 2G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 2G service network. |
| 3G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network. |
| 2G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network. |
| 3G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network. |

| Field | Description |
|-----------------------------------|--|
| 2G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network. |
| 3G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 3G service network. |
| 2G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 2G service network. |
| 3G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network. |
| 2G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network. |
| 3G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network. |
| 2G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network. |
| 3G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 3G service network. |
| 2G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 2G service network. |
| 3G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 3G service network. |
| 2G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 2G service network. |
| 3G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 3G service network. |
| 2G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 2G service network. |
| 3G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 3G service network. |
| 2G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 2G service network. |
| 3G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network. |
| 2G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network. |
| 3G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 3G service network. |

| Field | Description |
|----------------------------------|---|
| 2G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 2G service network. |
| 3G-Msg Type Not Comp With State | The PDP contexts deactivated as message type was not compatible with session state in 3G service network. |
| 2G-Msg Type Not Comp With State | The PDP contexts deactivated as message type was not compatible with session state in 2G service network. |
| 3G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 3G service network. |
| 2G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 2G service network. |
| 3G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 3G service network. |
| 2G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 2G service network. |
| 3G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network. |
| 2G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network. |
| 3G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network. |
| 2G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network. |
| 3G-Msg Not Compatible With State | The PDP contexts deactivated due as received message was incompatible with session state in 3G service network. |
| 2G-Msg Not Compatible With State | The PDP contexts deactivated due as received message was incompatible with session state in 2G service network. |
| 3G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network. |
| 2G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network. |
| SM Status Sent Causes | This group displays the statistics of session manager status messages sent by SGSN. |
| 3G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 3G service network. |
| 2G-Barred Due to ODB | The PDP contexts deactivated due to operator determined barring in 2G service network. |

| Field | Description |
|---------------------------------|--|
| 3G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network. |
| 2G-Mbms Cap Insufficient Svc | The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network. |
| 3G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network. |
| 2G-Llc Or Sndcp Failure GB Mode | The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network. |
| 3G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 3G service network. |
| 2G-Insufficient Resources | The PDP contexts deactivated due to insufficient resources in 2G service network. |
| 3G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 3G service network. |
| 2G-Missing Or Unknown Apn | The PDP contexts deactivated due to unknown or missing APN in 2G service network. |
| 3G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network. |
| 2G-Unknown Pdp Add Or Pdp Type | The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network. |
| 3G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 3G service network. |
| 2G-User Auth Failed | The PDP contexts deactivated due to user authentication failure in 2G service network. |
| 3G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network. |
| 2G-Actv Rej By Ggsn | The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network. |
| 3G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network. |
| 2G-Actv Rej Unspecified | The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network. |
| 3G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 3G service network. |

| Field | Description |
|----------------------------------|---|
| 2G-Svc Option Not Supported | The PDP contexts deactivated as service option was not supported in 2G service network. |
| 3G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network. |
| 2G-Req Svc Option Not Subscribed | The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network. |
| 3G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network. |
| 2G-Svc Option Tmp Out Of Order | The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network. |
| 3G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network. |
| 2G-Nsapi Already Used | The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network. |
| 3G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 3G service network. |
| 2G-Regular Deactv | The PDP contexts deactivated due to periodic deactivation in 2G service network. |
| 3G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network. |
| 2G-Qos Not Accepted | The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network. |
| 3G-Network Failure | The PDP contexts deactivated due to network failure in 3G service network. |
| 2G-Network Failure | The PDP contexts deactivated due to network failure in 2G service network. |
| 3G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 3G service network. |
| 2G-Reactv Required | The PDP contexts deactivated as reactivation was required for PDP context in 2G service network. |
| 3G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 3G service network. |
| 2G-Feature Not Supported | The PDP contexts deactivated as requested feature was not supported in 2G service network. |

| Field | Description |
|-----------------------------------|--|
| 3G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network. |
| 2G-Sem Error In The Tft Op | The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network. |
| 3G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network. |
| 2G-Synt Error In The Tft Op | The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network. |
| 3G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 3G service network. |
| 2G-Unknown Ctx | The PDP contexts deactivated due to unknown PDP context in 2G service network. |
| 3G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network. |
| 2G-Ctx No-Tft Already Activated | The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network. |
| 3G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network. |
| 2G-M-Cast Grp Membership Time Out | The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network. |
| 3G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 3G service network. |
| 2G-Sem Errors In Pkt Filter | The PDP contexts deactivated due to semantic error in packet filter in 2G service network. |
| 3G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 3G service network. |
| 2G-Synt Errors In Pkt Filter | The PDP contexts deactivated due to syntax error in packet filter in 2G service network. |
| 3G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 3G service network. |
| 2G-Invalid Transaction Id Val | The PDP contexts deactivated due to invalid transaction id value in message in 2G service network. |
| 3G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 3G service network. |
| 2G-Sem Incorrect Msg | The PDP contexts deactivated due to semantically incorrect message in 2G service network. |

| Field | Description |
|----------------------------------|---|
| 3G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network. |
| 2G-Invalid Mandatory Info | The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network. |
| 3G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 3G service network. |
| 2G-Msg Non Existent | The PDP contexts deactivated due to non-existent type of message received in 2G service network. |
| 3G-Msg Type Not Comp With State | The PDP contexts deactivated as message type was not compatible with session state in 3G service network. |
| 2G-Msg Type Not Comp With State | The PDP contexts deactivated as message type was not compatible with session state in 2G service network. |
| 3G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 3G service network. |
| 2G-Ie Non Existent | The PDP contexts deactivated due to non-existent type of information element received in 2G service network. |
| 3G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 3G service network. |
| 2G-Conditional Ie Error | The PDP contexts deactivated due to error in conditional information element received in 2G service network. |
| 3G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network. |
| 2G-Proto Err Unspecified | The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network. |
| 3G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network. |
| 2G-Apn Restr val Incomp With Ctx | The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network. |
| 3G-Msg Not Compatible With State | The PDP contexts deactivated due as received message was incompatible with session state in 3G service network. |
| 2G-Msg Not Compatible With State | The PDP contexts deactivated due as received message was incompatible with session state in 2G service network. |
| 3G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network. |
| 2G-Recovery On Timer Expiry | The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network. |

| Field | Description |
|---------------------------------|--|
| RNC Initiated RAB Messages | Indicates the statistics of the radio network controller (RNC) initiated radio access bearer (RAB) messages for 2G and 3G service. |
| Total Rab Mod Requested | Total number of requests for radio access bearer modification initiated by radio network controller. |
| Num Rab Mod | Total number of RAB modified on requests for modification initiated by radio network controller. |
| Total Rab Rel Requested | Total number of requests for radio access bearer release initiated by radio network controller. |
| Num Rab Rel | Total number of RAB modified on requests for release initiated by radio network controller. |
| SGSN Initiated RAB Messages | Indicates the statistics of the SGSN initiated radio access bearer (RAB) messages for 2G and 3G service. |
| Total Rab Assign Requested | Total number of SGSN initiated RAB assign requests messages received. |
| Total Rab Assign Rsp Rcvd | Total number of SGSN initiated RAB assign response messages received. |
| Rab Setup/Mod Attempted | Total number of SGSN initiated setup and modification attempted for RAB. |
| Rab Setup/Mod Accepted | Total number of SGSN initiated setup and modification accepted for RAB. |
| Rab Setup/Mod Timer Expired | Total number of SGSN initiated RAB setup and modification events where procedure timer exhausted. |
| Rab Setup/Mod Failed | Total number of SGSN initiated RAB setup and modification events failed. |
| Rab Rel Attempted | Total number of SGSN initiated RAB release procedure attempted. |
| Rab Rel Accepted | Total number of SGSN initiated RAB release procedure accepted. |
| Rab Rel Timer Expired | Total number of SGSN initiated RAB release procedure where procedure timer exhausted. |
| Rab Rel Failed | Total number of SGSN initiated RAB release procedure failed. |
| Rab Queued | Total number of SGSN initiated RAB messages in queue. |
| Rab Setup Reattempted (Diff IP) | Total number of SGSN initiated RAB setup reattempted with different IP address. |
| Total Set/Mod/Rel Rab Rejected | Total number of SGSN initiated RAB setup, modification/release rejected. |

| Field | Description |
|-------------------------------|--|
| RAB Release Reason | This group indicates the statistics of reasons for RAB release. |
| Pre-Empted RAB Release | Total number of RABs released because SGSN preempted another RAB. |
| Rab Rel Due to UTRAN | Total number of RAB released due to UTRAN. |
| UE Radio Connection Lost | Total number of RAB released due to radio connection lost from UE. |
| Rab Rel Due to Other Reason | Total number of RAB released due to reasons other than listed in this table. |
| RAB Assignment Denied | This group indicates the statistics of reasons for RAB assignment denial. |
| Rab Pre Empted | Total number of RAB assignment denied because SGSN preempted another RAB. |
| Trelocoverall Expiry | Total number of RAB assignment denied because Overall Relocation timer expired. |
| Trelocprep Expiry | Total number of RAB assignment denied because Relocation Preparation timer expired. |
| Treloccomplete Expiry | Total number of RAB assignment denied because Relocation Completed timer expired. |
| Tqueuing Expiry | Total number of RAB assignment denied because Queuing timer expired. |
| Relocation Triggered | Total number of RAB assignment denied because another relocation procedure triggered. |
| Unable Establish During Reloc | Total number of RAB assignment denied because RAB failed to establish during relocation as it cannot be supported in the target RNC. |
| Unknown Target Rnc | Total number of RAB assignment denied because the target RNC is not known to the CN. |
| Relocation Cancelled | Total number of RAB assignment denied because relocation procedure was cancelled by the UTRAN or the UE. |
| Successful Relocation | Total number of RAB assignment denied because relocation was completed successfully. |
| Req Cipher Algo Not Supported | Total number of RAB assignment denied because the UTRAN or the UE is unable to support the requested ciphering and/or integrity protection algorithms. |
| Conflict Cipher Info | Total number of RAB assignment denied because there was conflict in ciphering information. |

| Field | Description |
|---------------------------------|--|
| Failure In The Radio I/F Proc | Total number of RAB assignment denied because radio interface procedure has failed. |
| Rel Due To Utran Reason | Total number of RAB assignment denied as RAB release is initiated due to UTRAN generated reason. |
| User Inactivity | Total number of RAB assignment denied due to user inactivity. |
| Time Critical Relocation | Total number of RAB assignment denied because relocation is requested for time critical reason. |
| Req Traffic Class Unavail | Total number of RAB assignment denied because requested traffic class was not available for subscriber or in the RAN. |
| Invalid Rab Parameters Val | Total number of RAB assignment denied due to invalid value in RAB parameters. |
| Req Max Bit Rate Unavail | Total number of RAB assignment denied because requested Maximum Bit Rate was not available for downlink or uplink in RAN. |
| Req Max Bit Rate DI Unavail | Total number of RAB assignment denied because requested Maximum Bit Rate was not available for downlink in RAN. |
| Req Max Bit Rate For UI Unavail | Total number of RAB assignment denied because requested Maximum Bit Rate was not available for uplink in RAN. |
| Req G-Bit Rate Unavail | Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for downlink or uplink in RAN. |
| Req DL G-Bit Rate Unavail | Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for downlink in RAN. |
| Req UL G-Bit Rate Unavail | Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for uplink in RAN. |
| Req Trans Delay Not Achievable | Total number of RAB assignment denied because requested transfer delay is not achievable. |
| Invalid Rab Param Combo | Total number of RAB assignment denied due to invalid RAB parameters combination. |
| Violation For Sdu Parameters | Total number of RAB assignment denied due to condition violation for SDU parameters. |
| Violation Traffic Hndl Prio | Total number of RAB assignment denied due to condition violation for traffic handling priority. |
| Violation For G-Bit Rate | Total number of RAB assignment denied due to condition violation for guaranteed bit rate. |

| Field | Description |
|--------------------------------|---|
| User Plane Ver Unsupported | Total number of RAB assignment denied because requested user plane versions were not supported. |
| Iu Up Failure | Total number of RAB assignment denied due to failure in Iu user plane. |
| Trelocalloc Expiry | Total number of RAB assignment denied because Relocation Resource Allocation procedure failed due to expiry of the timer TRELOCalloc. |
| Relocation Failure In T-System | Total number of RAB assignment denied because relocation failed due to a failure in target CN/RNC or target system. |
| Invalid Rab Id | Total number of RAB assignment denied because the RAB ID is unknown in the RNC. |
| No Remaining Rab | Total number of RAB assignment denied because no RAB is available. |
| Interaction With Other Proc | Total number of RAB assignment denied because relocation was cancelled due to interaction with other procedure. |
| Repeated Integrity Check Fail | Total number of RAB assignment denied due to repeated failure in integrity checking. |
| Req Type Not Supported | Total number of RAB assignment denied because the RNC is not supporting the requested location report type. |
| Req Superseded | Total number of RAB assignment denied because there was a second request on the same RAB. |
| Ue Gen Sig Con Rel | Total number of RAB assignment denied due to due to UE generated signalling connection release |
| Resource Optimisation Reloc | Total number of RAB assignment denied because relocation was requested due to resource optimisation. |
| Req Info Unavail | Total number of RAB assignment denied because requested information is not available. |
| Relocation Due to Radio Reason | Total number of RAB assignment denied because relocation was requested due to radio reason. |
| Reloc Unsupported In T-Rnc | Total number of RAB assignment denied due to relocation failure as relocation was not supported in target RNC or target system. |
| Directed Retry | Total number of RAB assignment denied because retry was directed from RNC. |
| Radio Con With Ue Lost | Total number of RAB assignment denied because radio connection was lost with UE. |

| Field | Description |
|-------------------------------|--|
| Rnc Unable Establish All Rfcs | Total number of RAB assignment denied because RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE. |
| Deciphering Keys Unavail | Total number of RAB assignment denied because RNC is not able to provide requested deciphering keys. |
| Dedicated Assist Data Unavail | Total number of RAB assignment denied because RNC is not able to successfully deliver the requested dedicated assistance data to the UE. |
| Reloc Target Not Allowed | Total number of RAB assignment denied because relocation to the indicated target cell is not allowed for the UE in question. |
| Location Reporting Congestion | Total number of RAB assignment denied as congestion status reported location report. |
| Reduce Load In Serving Cell | Total number of RAB assignment denied because system was reducing load in service cell. |
| No Radio Resources In T-Cell | Total number of RAB assignment denied because radio resource was not available in target cell. |
| Geran Iu Mode Failure | Total number of RAB assignment denied because the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN. |
| Acc Rstrd Due To Shared N/w | Total number of RAB assignment denied because access to target system restricted due to shared networks. |
| Reloc Unsuported Due Puesbin | Total number of RAB assignment denied as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature. |
| Traffic T-Cell > S-Cell | Total number of RAB assignment denied because the target cell's traffic load is higher than that in the source cell. |
| Mbms No Multicast Svc For Ue | Total number of RAB assignment denied because the UE does not have any active multicast service. |
| Mbms Unknown Ue Id | Total number of RAB assignment denied because the CN does not know the UE or unknown UE identifier. |
| Mbms Sess Start No Data | Total number of RAB assignment denied because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE. |
| Mbms Superseded Due To Nnsf | Total number of RAB assignment denied as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node. |

| Field | Description |
|--------------------------------|--|
| Mbms Ue Linking Already Done | Total number of RAB assignment denied because the UE has already been linked to the given Multicast service |
| Mbms Ue De Linking Failure | Total number of RAB assignment denied because the UE had not been linked to the given Multicast service. |
| Tmgi Unknown | Total number of RAB assignment denied due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown. |
| MS Unspecified Failure | Total number of RAB assignment denied due to unspecified failures from UE side. |
| SRNS Context Transfer Messages | Indicates the statistics of SGSN radio network subsystem context transfer messages. |
| SRNS Context Req Send | Total number of SGSN radio network subsystem context transfer request messages sent. |
| SRNS Context Rsp Rcvd | Total number of SGSN radio network subsystem context transfer response messages received. |
| SRNS Context Req Timer Expired | Total number of events when timer exhausted for SGSN radio network subsystem context transfer request messages. |
| Total PDP-Ctxt Accepted | Total number of PDP context accepted for SGSN radio network subsystem. |
| Total PDP-Ctxt Rejected | Total number of PDP context rejected for SGSN radio network subsystem. |
| SRNS Data Fwd Cmd Send | Total number of SGSN radio network subsystem data forward commands sent. |
| SRNS Ctxt Req Denied | This group indicates the statistics of reasons for SRNS context request denial. |
| Rab Pre Empted | Total number of SRNS context request denied because SGSN preempted another RAB. |
| Trelocoverall Expiry | Total number of SRNS context request denied because Overall Relocation timer expired. |
| Trelocprep Expiry | Total number of SRNS context request denied because Relocation Preparation timer expired. |
| Treloccomplete Expiry | Total number of SRNS context request denied because Relocation Completed timer expired. |
| Tqueuing Expiry | Total number of SRNS context request denied because Queuing timer expired. |

| Field | Description |
|---------------------------------|--|
| Relocation Triggered | Total number of SRNS context request denied because another relocation procedure triggered. |
| Unable Establish During Reloc | Total number of SRNS context request denied because RAB failed to establish during relocation as it cannot be supported in the target RNC. |
| Unknown Target Rnc | Total number of SRNS context request denied because the target RNC is not known to the CN. |
| Relocation Cancelled | Total number of SRNS context request denied because relocation procedure was cancelled by the UTRAN or the UE. |
| Successful Relocation | Total number of SRNS context request denied because relocation was completed successfully. |
| Req Cipher Algo Not Supported | Total number of SRNS context request denied because the UTRAN or the UE is unable to support the requested ciphering and/or integrity protection algorithms. |
| Conflict Cipher Info | Total number of SRNS context request denied because there was conflict in ciphering information. |
| Failure In The Radio I/F Proc | Total number of SRNS context request denied because radio interface procedure has failed. |
| Rel Due To Utran Reason | Total number of SRNS context request denied as RAB release is initiated due to UTRAN generated reason. |
| User Inactivity | Total number of SRNS context request denied due to user inactivity. |
| Time Critical Relocation | Total number of SRNS context request denied because relocation is requested for time critical reason. |
| Req Traffic Class Unavail | Total number of SRNS context request denied because requested traffic class was not available for subscriber or in the RAN. |
| Invalid Rab Parameters Val | Total number of SRNS context request denied due to invalid value in RAB parameters. |
| Req Max Bit Rate Unavail | Total number of SRNS context request denied because requested Maximum Bit Rate was not available for downlink or uplink in RAN. |
| Req Max Bit Rate DL Unavail | Total number of SRNS context request denied because requested Maximum Bit Rate was not available for downlink in RAN. |
| Req Max Bit Rate For UL Unavail | Total number of SRNS context request denied because requested Maximum Bit Rate was not available for uplink in RAN. |

| Field | Description |
|--------------------------------|---|
| Req G-Bit Rate Unavail | Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for downlink or uplink in RAN. |
| Req DL G-Bit Rate Unavail | Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for downlink in RAN. |
| Req UL G-Bit Rate Unavail | Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for uplink in RAN. |
| Req Trans Delay Not Achievable | Total number of SRNS context request denied because requested transfer delay is not achievable. |
| Invalid Rab Param Combo | Total number of SRNS context request denied due to invalid RAB parameters combination. |
| Violation For Sdu Parameters | Total number of SRNS context request denied due to condition violation for SDU parameters. |
| Violation Traffic Hndl Prio | Total number of SRNS context request denied due to condition violation for traffic handling priority. |
| Violation For G-Bit Rate | Total number of SRNS context request denied due to condition violation for guaranteed bit rate. |
| User Plane Ver Unsupported | Total number of SRNS context request denied because requested user plane versions were not supported. |
| Iu Up Failure | Total number of SRNS context request denied due to failure in Iu user plane. |
| Trelocalloc Expiry | Total number of SRNS context request denied because Relocation Resource Allocation procedure failed due to expiry of the timer TRELOCalloc. |
| Relocation Failure In T-System | Total number of SRNS context request denied because relocation failed due to a failure in target CN/RNC or target system. |
| Invalid Rab Id | Total number of SRNS context request denied because the RAB ID is unknown in the RNC. |
| No Remaining Rab | Total number of SRNS context request denied because no RAB is available. |
| Interaction With Other Proc | Total number of SRNS context request denied because relocation was cancelled due to interaction with other procedure. |
| Repeated Integrity Check Fail | Total number of SRNS context request denied due to repeated failure in integrity checking. |
| Req Type Not Supported | Total number of SRNS context request denied because the RNC is not supporting the requested location report type. |

| Field | Description |
|--------------------------------|---|
| Req Superseded | Total number of SRNS context request denied because there was a second request on the same RAB. |
| Ue Gen Sig Con Rel | Total number of SRNS context request denied due to due to UE generated signalling connection release |
| Resource Optimisation Reloc | Total number of SRNS context request denied because relocation was requested due to resource optimisation. |
| Req Info Unavail | Total number of SRNS context request denied because requested information is not available. |
| Relocation Due to Radio Reason | Total number of SRNS context request denied because relocation was requested due to radio reason. |
| Reloc Unsupported In T-Rnc | Total number of SRNS context request denied due to relocation failure as relocation was not supported in target RNC or target system. |
| Directed Retry | Total number of SRNS context request denied because retry was directed from RNC. |
| Radio Con With Ue Lost | Total number of SRNS context request denied because radio connection was lost with UE. |
| Rnc Unable Establish All Rfcs | Total number of SRNS context request denied because RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE. |
| Deciphering Keys Unavail | Total number of SRNS context request denied because RNC is not able to provide requested deciphering keys. |
| Dedicated Assist Data Unavail | Total number of SRNS context request denied because RNC is not able to successfully deliver the requested dedicated assistance data to the UE. |
| Reloc Target Not Allowed | Total number of SRNS context request denied because relocation to the indicated target cell is not allowed for the UE in question. |
| Location Reporting Congestion | Total number of SRNS context request denied as congestion status reported location report. |
| Reduce Load In Serving Cell | Total number of SRNS context request denied because system was reducing load in service cell. |
| No Radio Resources In T-Cell | Total number of SRNS context request denied because radio resource was not available in target cell. |
| Geran Iu Mode Failure | Total number of SRNS context request denied because the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN. |

| Field | Description |
|------------------------------------|--|
| Acc Rstrd Due To Shared N/w | Total number of SRNS context request denied because access to target system restricted due to shared networks. |
| Reloc Unsuported Due Puesbin | Total number of SRNS context request denied as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature. |
| Traffic T-Cell > S-Cell | Total number of SRNS context request denied because the target cell's traffic load is higher than that in the source cell. |
| Mbms No Multicast Svc For Ue | Total number of SRNS context request denied because the UE does not have any active multicast service. |
| Mbms Unknown Ue Id | Total number of SRNS context request denied because the CN does not know the UE or unknown UE identifier. |
| Mbms Sess Start No Data | Total number of SRNS context request denied because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE. |
| Mbms Superseded Due To Nnsf | Total number of SRNS context request denied as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node. |
| Mbms Ue Linking Already Done | Total number of SRNS context request denied because the UE has already been linked to the given Multicast service |
| Mbms Ue De Linking Failure | Total number of SRNS context request denied because the UE had not been linked to the given Multicast service. |
| Tmgi Unknown | Total number of SRNS context request denied due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown. |
| MS Unspecified Failure | Total number of SRNS context request denied due to unspecified failures from UE side. |
| No Response From RNC | Total number of SRNS context request denied due no response from RNC. |
| Miscellaneous Statistics | This group displays the miscellaneous statistics. |
| Rnc Overload Statistics | This subgroup displays the RNC overload statistics. |
| Activate Request Rejected | Indicates the total number of PDP context activation requests rejected due to RNC overload. |
| Activation dropped during hand-off | Indicates the total number of PDP context activation dropped during handoff due to RNC overload. |
| Ms-Modify-Request Rejected | Indicates the total number of PDP context modify requests from MS rejected due to RNC overload. |

| Field | Description |
|---|---|
| N/W-Modify-Request Dropped | Indicates the total number of PDP context modify requests from network side dropped due to RNC overload. |
| Paging Req (Data) Dropped | Indicates the total number of paging requests from network side dropped due to RNC overload. |
| 2G APN Selection Failure Statistics | |
| SDL-1 | |
| All Packet Services Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - "All Packet Switched Services Barred" setting is present in the Subscription information for the subscriber.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| PDP Type not Present, PDP Address Present | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Activate PDP Context Request has PDP Address without PDP Type.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| PDP Type not Present, APN Present | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Activate PDP Context Request has APN without PDP Type.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| PDP Type, Address and APN not Present, No Single SubRec | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - PDP Type, PDP Address, APN are not present in Activate PDP Context Request and multiple PDP Subscription Records are present for the subscriber.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| SDL-2 | |

| Field | Description |
|--|--|
| No SubRec matching PDP Type | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No PDP Subscription Records matching PDP Type from Activate PDP Context Request.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| No SubRec matching PDP Type and APN, No Wildcard APN | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No PDP Subscription Record matching PDP Type and APN from Activate PDP Context Request. Also, the subscriber does not have any PDP Subscription record with wildcard APN.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Multiple SubRecs matching PDP Type and APN, No Dynamic Address | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Multiple PDP Subscription Records exist matching the PDP Type and APN from Activate PDP Context Request, but without dynamic PDP address.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Multiple SubRecs matching PDP Type and APN, with Dynamic Address | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Multiple PDP Subscription Records exist matching the PDP Type and APN from Activate PDP Context Request, but all with dynamic PDP address.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| SDL-3 | |
| APN not Present | |
| No Wildcard APN, Multiple SubRecs matching PDP Type | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN not present in Activate PDP Context Request • No PDP Subscription record with wildcard APN and Multiple PDP Subscription Records exist matching the PDP Type <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |

| Field | Description |
|--|---|
| Multiple SubRecs with Wildcard APN and same PDP Type | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN not present in Activate PDP Context Request • Multiple PDP Subscription Records with wildcard APN exist matching the PDP Type <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| PDP Address Present | |
| No SubRec matching PDP Address | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • PDP Address present in Activate PDP Context Request • No PDP Subscription record exist matching the PDP Type and PDP Address <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Single SubRec matching PDP Address, No APN Match | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • PDP Address present in Activate PDP Context Request • Single PDP Subscription record exist matching the PDP Type and PDP Address, but APN does not match <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Multiple SubRecs matching PDP Address, APN not requested | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • PDP Address present in Activate PDP Context Request • Multiple PDP Subscription record exist matching the PDP Type and PDP Address, but APN not present in Activate PDP Context Request <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |

| Field | Description |
|---|--|
| Multiple SubRecs matching PDP Address, No APN Match | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • PDP Address present in Activate PDP Context Request • Multiple PDP Subscription record exist matching the PDP Type and PDP Address, but APN does not match <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| SDL-4 | |
| APN sent by MS | |
| VPLMN User, APN-OI not HPLMN, not VPLMN | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is neither matching HPLMN nor VPLMN <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| VPLMN User, APN-OI is VPLMN, VPLMN Addr not allowed | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches VPLMN, but VPLMN Address is not allowed <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |

| Field | Description |
|--|--|
| VPLMN User, APN-OI is VPLMN, VPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches VPLMN, but VPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| VPLMN User, APN-OI is HPLMN, HPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches HPLMN, but HPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| VPLMN User, No APN-OI, VPLMN Addr not allowed, HPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is not present • VPLMN Address is not allowed • HPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |

| Field | Description |
|---|---|
| VPLMN User, No APN-OI, VPLMN AP Barred, HPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is not present • VPLMN Access Point Access is barred • HPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| HPLMN user, APN-OI not HPLMN | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN present in Activate PDP Context Request • Subscriber is in HPLMN • Requested APN-OI doesn't match HPLMN <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| APN from Single Context | |
| VPLMN Addr not allowed, HPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN selected from Single PDP Subscription Record • VPLMN Address not allowed • HPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |

| Field | Description |
|------------------------------------|---|
| VPLMN AP Barred, HPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • APN selected from Single PDP Subscription Record • VPLMN Access Point Access is barred • HPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| SDL-5: | |
| VPLMN User, VPLMN Addr not allowed | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • Default APN chosen by SGSN • Subscriber in VPLMN and • VPLMN Address not allowed <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| VPLMN User, VPLMN AP Barred | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons:</p> <ul style="list-style-type: none"> • Default APN chosen by SGSN • Subscriber in VPLMN • VPLMN Access Point Access is barred <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| No Default APN for PDP Type | <p>Description: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No Default APN configured for the PDP Type.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Internal APN Selection Failures: | |

| Field | Description |
|---------------------------------------|---|
| Wildcard APN with Static Address | <p>Description: This proprietary counter indicates the total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reason - Subscription PDP Record with wildcard APN has static PDP address.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| Unknown PDP Type in Subscribed Record | <p>Description: This proprietary counter indicates the total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - matching Subscription PDP Record has unknown PDP Type.</p> <p>Triggers: Increments when Activate PDP Reject is sent due to this reason.</p> <p>Availability: per Chassis</p> |
| GPRS SM Dropped Statistics | This group displays the statistics related to GPRS session manager packets dropped. |
| 2G-Deactiv-Accept | Total number of Deactivate Accept messages received by GPRS session manager on SGSN for 2G service. |
| 2G-Other-SM-Msg | Total number of messages received by GPRS session manager on SGSN for 2G services from other session manager. |
| GPRS PDP FSM Statistics | This group displays the statistics related to GPRS finite state machine states for Primary PDP Context procedures. |
| Pri Actv Req Rcvd | Total number of Primary PDP Context Activate Request messages received by GPRS session manager on SGSN for GPRS service. |
| Pri Actv Acc Sent | Total number of Primary PDP Context Activate Request Accept messages sent by GPRS session manager on SGSN for GPRS service. |
| Pri Actv Rej Sent | Total number of Primary PDP Context Activate Request Reject messages sent by GPRS session manager on SGSN for GPRS service. |
| Sec Actv Req Rcvd | Total number of Secondary PDP Context Activate Request messages received by GPRS session manager on SGSN for GPRS service. |
| Sec Actv Acc Sent | Total number of Secondary PDP Context Activate Request Accept messages sent by GPRS session manager on SGSN for GPRS service. |
| Sec Actv Rej Sent | Total number of Secondary PDP Context Activate Request Reject messages sent by GPRS session manager on SGSN for GPRS service. |

| Field | Description |
|-----------------------------------|---|
| Modify Req Rcvd | Total number of PDP Context Modify Request messages received by GPRS session manager on SGSN for GPRS service. |
| Modify Acc Sent | Total number of PDP Context Modify Request Accept messages sent by GPRS session manager on SGSN for GPRS service. |
| Modify Rej Sent | Total number of PDP Context Modify Request Reject messages sent by GPRS session manager on SGSN for GPRS service. |
| Modify Req Sent | Total number of PDP Context Modify Request messages sent by GPRS session manager on SGSN for GPRS service. |
| Modify Acc Rcvd | Total number of PDP Context Modify Request Accept messages received by GPRS session manager on SGSN for GPRS service. |
| Deactv Req Rcvd | Total number of PDP Context Deactivate Request messages received by GPRS session manager on SGSN for GPRS service. |
| Deactv Acc Sent | Total number of PDP Context Deactivate Request Accept messages sent by GPRS session manager on SGSN for GPRS service. |
| Deactv Req Sent | Total number of PDP Context Deactivate Request messages sent by GPRS session manager on SGSN for GPRS service. |
| Deactv Acc Rcvd | Total number of PDP Context Deactivate Request messages received by GPRS session manager on SGSN for GPRS service. |
| SM Status Sent | Total number of messages with GPRS session manager status on SGSN for GPRS service sent by SGSN. |
| SM Status Rcvd | Total number of messages with GPRS session manager status on SGSN for GPRS service received by SGSN. |
| 3G-Req Rej BCM Violation | Indicates the transmission or receipt of a Modification PDP Context Reject with a Request Rejected, Bearer Control Mode (BCM) Violation Cause code on the S4-SGSN. |
| 2G-Req Rej BCM Violation | Indicates the transmission or receipt of a Modification PDP Context Reject with a Request Rejected, Bearer Control Mode (BCM) Violation Cause code on the S4-SGSN. |
| No suitable cell in Location Area | This counter is added for the re-direction message, it displays the presenc or absence of suitable cells in the Location Area. |
| XID Resp Failure | This counter keeps track of the number of attach failures due to the XID response failure for the XID's initiated from SGSN to negotiate IOV-UI value after successful authentication procedure (only if the Random IOV-UI procedure is enabled). Separate counters are added to count the XID faiures during simple attach and combined attach procedures. |
| Paging Statistics | |

| Field | Description |
|------------------------------|---|
| Total-CRA-Page-Req-Same-RAT | This counter keeps track of total common RA page requests. |
| 3G-PS-CRA-Page-Req-in-2G | This counter keeps track of common RA RANAP page requests for a 3G subscriber. |
| Total-CRA-Page-Ret-Same-RAT | This counter keeps track of total common RA page re-transmission requests . |
| 3G-PS-CRA-Page-Ret-Req-in-2G | This counter keeps track of total common RA RANAP page retransmission requests for a 3G subscriber. |
| Total-CRA-Page-Req-Other-RAT | This counter keeps track of total common RA page requests. |
| 3G-PS-CRA-Page-Req | This counter keeps track of total common RA BSSGP page for a 3G subscriber. |
| Total-CRA-Page-Ret-Other-RAT | This counter keeps track of total common RA page re-transmission requests |
| 3G-PS-CRA-Page-Ret-Req | This counter keeps track of total common RA page re-transmission requests for a 3G subscriber. |
| Total-CRA-Page-Rsp-Same-RAT | This counter keeps track of total common RA page responses. |
| 3G-PS-CRA-Page-Rsp | This counter keeps track of total common RA page response for a 3G subscriber. |
| Total-CRA-Page-Rsp-Other-RAT | This counter keeps track of total common RA page responses. |
| 3G-PS-CRA-Attach-from-2G | This counter keeps track of total common RA attach requests for 3G subscriber. |
| 3G-PS-CRA-RAU-from-2G | This counter keeps track of total common RA RAU requests for 3G subscriber. |
| 3G-PS-CRA-Power-Off-from-2G | This counter keeps track of total common RA Power of requests for 3G subscriber. |
| Total-CRA-Page-TO-Other-RAT | This counter keeps track of total common RA page requests to other RAT. |
| 3G-PS-CRA-Timeout-in-2G | This counter keeps track of total common RA time outs for a 3G subscriber. |
| Total-CRA-Page-Stop | This counter keeps track of total common RA stop ongoing page requests for subscribers. |
| 3G-PS-CRA-Page-Stop | This counter keeps track of total common RA stop ongoing page requests for 3G subscribers. |
| 2G-PS-CRA-Page-in-3G | This counter keeps track of common RA BSSGP page requests for a 2G subscriber. |

| Field | Description |
|--------------------------------|--|
| 2G-PS-CRA-Page-Ret-Req-in-3G | This counter keeps track of total common RA page re-transmission requests for a 2G subscriber. |
| 2G-PS-CRA-Page-Req | This counter keeps track of common RA BSSGP page requests for a 2G subscriber. |
| 2G-PS-CRA-Page-Rsp | This counter keeps track of total common RA page response for a 2G subscriber. |
| 2G-PS-CRA-Attach-from-3G | This counter keeps track of total common RA attach requests for 2G subscriber. |
| 2G-PS-CRA-RAU-from-3G | This counter keeps track of total common RA RAU requests for 2G subscriber. |
| 2G-PS-CRA-Power-Off-from-3G | This counter keeps track of total common RA Power of requests for 2G subscriber. |
| 2G-PS-CRA-Timeout-in-3G | This counter keeps track of total common RA time outs for a 2G subscriber. |
| 2G-PS-CRA-Page-Stop | This counter keeps track of total common RA stop ongoing page requests for 2G subscribers. |
| Non Paging Statistics | |
| 3G-CRA-Attach | This counter keeps track of common RA Attach requests for 3G subscribers. |
| 3G-CRA-RAU | This counter keeps track of common RA RAU requests for 3G subscribers. |
| 3G-CRA-Power-Off | This counter keeps track of common RA Power-Off requests for 3G subscribers. |
| 2G-CRA-Attach | This counter keeps track of common RA Attach requests for 2G subscribers. |
| 2G-CRA-RAU | This counter keeps track of common RA RAU requests for 2G subscribers. |
| 2G-CRA-Power-Off | This counter keeps track of common RA Power-Off requests for 2G subscribers. |
| 3G Page Throttling Statistics | |
| PS-Page-Req sent by RLF | Number of PS Paging Request sent by RLF |
| Ret-PS-Page-Req sent by RLF | Number of PS Paging Request Retries sent by RLF |
| PS-Page-Req dropped by RLF | Number of PS Paging Request dropped by RLF |
| Ret-PS-Page-Req dropped by RLF | Number of PS Paging Request Retries dropped by RLF |

| Field | Description |
|--------------------------------------|--|
| PS-Page-Req dropped due to no memory | Number of PS Paging Request dropped due to insufficient memory |
| 2G Page Throttling statistics | |
| Paging Request sent out by RLF | Number of Total PS Paging Request sent by RLF |
| Total-Page-Req sent | Total number of Paging requests sent. |
| Ret-Total-Page-Req sent | Number of Total PS Paging Request Retries sent by RLF |
| Page-Requests-LA | Number of PS Paging Request at LA level sent by RLF |
| Ret-Page-Requests-LA | Number of PS Paging Request Retries at LA level sent by RLF |
| Page-Requests-RA | Number of PS Paging Request at RA level sent by RLF |
| Ret-Page-Requests-RA | Number of PS Paging Request Retries at RA level sent by RLF |
| Page-Requests-BSS | Number of PS Paging Request at BSS level sent by RLF |
| Ret-Page-Requests-BSS | Number of PS Paging Request Retries at BSS level sent by RLF |
| Page-Requests-Cell | Number of PS Paging Request at Cell level sent by RLF |
| Ret-Page-Requests-Cell | Number of PS Paging Request Retries at Cell level sent by RLF |
| Paging Request dropped by RLF | Number of Total PS Paging Request dropped by RLF |
| Total-Page-Req dropped | Total number of Paging requests dropped. |
| Ret-Total-Page-Req dropped | Number of Total PS Paging Request Retries dropped by RLF |
| Page-Requests-LA | Number of PS Paging Request at LA level dropped by RLF |
| Ret-Page-Requests-LA | Number of PS Paging Request Retries at LA level dropped by RLF |
| Page-Requests-RA | Number of PS Paging Request at RA level dropped by RLF |
| Ret-Page-Requests-RA | Number of PS Paging Request Retries at RA level dropped by RLF |
| Page-Requests-BSS | Number of PS Paging Request at BSS level dropped by RLF |
| Ret-Page-Requests-BSS | Number of PS Paging Request Retries at BSS level dropped by RLF |
| Page-Requests-Cell | Number of PS Paging Request at Cell level dropped by RLF |
| Ret-Page-Requests-Cell | Number of PS Paging Request Retries at Cell level dropped by RLF |
| PS-Page-Req dropped due to no memory | Number of PS Paging Request dropped due to insufficient memory |
| Attach Reqs (with LAPI) | Number of 2G Attach Requests received with LAPI |

| Field | Description |
|-----------------------------|--|
| Attach Reqs(without LAPI) | Number of 2G Attach Requests received without LAPI |
| Attach Cong Rej(LAPI) | Number of 2G Attach Requests with LAPI rejected due to congestion |
| Attach Cong Rej(non LAPI) | Number of 2G Attach Requests without LAPI rejected due to congestion |
| Attach APN Cong Reject | Number of 2G Attach Requests rejected due to apn level congestion |
| RAU Reqs(with LAPI) | Number of 2G RAU Requests received with LAPI |
| RAU Reqs(without LAPI) | Number of 2G RAU Requests received without LAPI |
| RAU reject Cong LAPI | Number of 2G ISRAU Requests with LAPI rejected due to congestion |
| RAU reject Cong non-LAPI | Number of 2G ISRAU Requests without LAPI rejected due to congestion |
| RAU reject APN based Cong | Number of 2G ISRAU Requests rejected due to apn congestion |
| Dropped due to congestion | Number of 2G Intra RAU Requests dropped due to congestion |
| With LAPI | Number of 2G Intra RAU Requests with lapi dropped due to congestion |
| Without LAPI | Number of 2G Intra RAU Requests without lapi dropped due to congestion |
| RAU reject Cong LAPI | Number of 2G Intra RAU Requests with lapi rejected due to congestion |
| RAU reject Cong non-LAPI | Number of 2G Intra RAU Requests without lapi rejected due to congestion |
| Inter RAT Congestion Reject | Number of Inter RAT RAU Requests rejected due to congestion |
| Congestion rej with LAPI | Number of Inter RAT RAU Requests with LAPI rejected due to congestion |
| Congestion rej without LAPI | Number of Inter RAT RAU requests without LAPI rejected due to congestion |
| Inter GPRS Srv Rau Cong Rej | Number of Inter GPRS Service RAU Request rejected due to congestion |
| Congestion rej with LAPI | Number of Inter GPRS Service RAU Request with LAPI rejected due to congestion |
| Congestion rej without LAPI | Number of Inter GPRS Service RAU Request without LAPI rejected due to congestion |

| Field | Description |
|------------------------------|--|
| Inter RAT Congestion Drop | Number of Inter RAT RAU Requests dropped due to congestion |
| congestion drop with LAPI | Number of Inter RAT RAU requests with LAPI dropped due to congestion |
| congestion drop without LAPI | Number of Inter RAT RAU requests without LAPI dropped due to congestion |
| Inter GPRS Srv Rau Cong Drop | Number of Inter GPRS Service RAU Requests dropped due to congestion |
| Congestion drop with LAPI | Number of Inter GPRS Service RAU requests with LAPI dropped due to congestion |
| Congestion drop without LAPI | Number of Inter GPRS Service RAU requests without LAPI dropped due to congestion |
| 3G-Att-Req-with-LAPI | Number of 3G Attach Requests received with LAPI |
| 3G-Att-Req-without-LAPI | Number of 3G Attach Requests received without LAPI |
| Ret-3G-Req-With-LAPI | Number of 3G Attach Requests retried with LAPI |
| Ret-3G-Req-Without-LAPI | Number of 3G Attach Requests retried without LAPI |
| 3G-Att-Rej-Cong-With-LAPI | Number of 3G Attach requests with LAPI rejected due to congestion. |
| 3G-Att-Rej-Cong-Without-LAPI | Number of 3G Attach requests rejected without LAPI due to congestion |
| 3G-Att-Rej-APN-Based-Cong | Number of 3G Attach requests rejected due to apn level congestion |
| 3G-RAU-Req-with-LAPI | Number of 3G RAU Requests received with LAPI |
| 3G-RAU-Req-without-LAPI | Number of 3G RAU Requests received without LAPI |
| Ret-3G-RAU-With-LAPI | Number of 3G RAU Requests with LAPI retried |
| Ret-3G-RAU-Without-LAPI | Number of 3G RAU Requests without LAPI retried |
| 3G-RAU-Rej-Cong-With-LAPI | Number of 3G RAU requests with LAPI rejected due to congestion |
| 3G-RAU-Rej-Cong-Without-LAPI | Number of 3G RAU requests without LAPI rejected due to congestion |
| 3G-RAU-Rej-APN-Based-Cong | Number of 3G RAU requests rejected due to apn level congestion |
| 3G-Serv-Req-With-LAPI | Number of 3G Service Requests received with LAPI |
| 3G-Serv-Req-Without-LAPI | Number of 3G Service Requests received without LAPI |
| Ret-3G-Req-With-LAPI | Number of 3G Service Requests with LAPI retried |

| Field | Description |
|--|---|
| Ret-3G-Req-Without-LAPI | Number of 3G Service Requests without LAPI retried |
| 3G-Serv-Rej-Cong-With-LAPI | Number of 3G service requests rejected due to congestion with LAPI |
| 3G-Serv-Rej-Cong-Without-LAPI | Number of 3G service requests rejected due to congestion without LAPI |
| 3G-Congestion | Service requests rejected due to congestion. |
| Congestion(With LAPI) | Number of service requests with LAPI dropped due to congestion |
| Congestion(non LAPI) | Number of service requests without LAPI dropped due to congestion |
| Congestion(With LAPI) [under "Routing Area Update Requests Drops:"] | Number of 3G RAU requests with LAPI dropped due to congestion |
| Congestion(non LAPI) [under "Routing Area Update Requests Drops:"] | Number of 3G RAU requests without LAPI dropped due to congestion |
| Activated Subscribers 3G Activated Gn Interface | Number of 3G Gn subscribers activated with LAPI |
| Activated Subscribers 3G Activated Gn Interface | Number of 3G Gn subscribers activated without LAPI |
| Activated Subscribers 2G Activated Gn Interface | Number of 2G Gn subscribers activated with LAPI |
| Activated Subscribers 2G Activated Gn Interface | Number of 2G Gn subscribers activated without LAPI |
| Activated Subscribers 3G Activated S4 Interface | Number of 3G S4 subscribers activated with LAPI |
| Activated Subscribers 3G Activated S4 Interface | Number of 3G S4 subscribers activated without LAPI |
| Activated Subscribers 2G Activated S4 Interface | Number of 2G S4 subscribers activated with LAPI |
| Activated Subscribers 2G Activated S4 Interface | Number of 2G S4 subscribers activated without LAPI |
| Activate PDP Contexts 3G-Actv Pdp Ctx Gn Interface | Number of 3G Gn Activate PDP Contexts with LAPI |
| Activate PDP Contexts 3G-Actv Pdp Ctx Gn Interface | Number of 3G Gn Activate PDP Contexts without LAPI |
| Activate PDP Contexts 2G-Actv Pdp Ctx Gn Interface | Number of 2G Gn Activate PDP Contexts with LAPI |
| Activate PDP Contexts 2G-Actv Pdp Ctx Gn Interface | Number of 2G Gn Activate PDP Contexts without LAPI |
| Activate PDP Contexts 3G-Actv Pdp Ctx S4 Interface | Number of 3G S4 Activate PDP Contexts with LAPI |
| Activate PDP Contexts 3G-Actv Pdp Ctx S4 Interface | Number of 3G S4 Activate PDP Contexts without LAPI |
| Activate PDP Contexts 2G-Actv Pdp Ctx S4 Interface | Number of 2G S4 Activate PDP Contexts with LAPI |
| Activate PDP Contexts 2G-Actv Pdp Ctx S4 Interface | Number of 2G S4 Activate PDP Contexts without LAPI |
| Activate Context Request 3G-Actv-Request | Number of 3G Primary Activation Request Received with LAPI |

| Field | Description |
|--|--|
| Activate Context Request 2G-Actv-Request | Number of 2G Primary Activation Request Received with LAPI |
| Activate Context Request 3G-Secondary-Actv-Request Secondary-Actv-Request | Number of 3G Secondary Activation Request Received with LAPI |
| Activate Context Request 2G-Secondary-Actv-Request Secondary-Actv-Request | Number of 2G Secondary Activation Request Received with LAPI |
| Activate Context Reject Primary-Actv-Reject | Number of 3G Primary Activation Reject due to Congestion |
| Activate Context Reject Primary-Actv-Reject | Number of 3G Primary Activation Reject due to Congestion and LAPI |
| Activate Context Reject Primary-Actv-Reject | Number of 2G Primary Activation Reject due to Congestion |
| Activate Context Reject Primary-Actv-Reject | Number of 2G Primary Activation Reject due to Congestion and LAPI |
| Activate Context Reject Secondary-Actv-Reject | Number of 3G Secondary Activation Reject due to Congestion |
| Activate Context Reject Secondary-Actv-Reject | Number of 3G Secondary Activation Reject due to Congestion and LAPI |
| Activate Context Reject Secondary-Actv-Reject | Number of 2G Secondary Activation Reject due to Congestion |
| Activate Context Reject Secondary-Actv-Reject | Number of 2G Secondary Activation Reject due to Congestion and LAPI |
| Modify Context Request Modify-Request Rx 3G-Modify-Request Rx | Number of 3G MS Initiated Modify Request Received with LAPI |
| Modify Context Request Modify-Request Rx 2G-Modify-Request Rx | Number of 2G MS Initiated Modify Request Received with LAPI |
| Modify Context Reject Modify-Reject Tx | Number of 3G Modify Reject due to congestion |
| Modify Context Reject Modify-Reject Tx | Number of 3G Modify Reject due to congestion and LAPI |
| Modify Context Reject Modify-Reject Tx | Number of 2G Modify Reject due to congestion |
| Modify Context Reject Modify-Reject Tx | Number of 2G Modify Reject due to congestion and LAPI |
| cur-iu-srv-req-dt-ukn-ptmsi | This counter is incremented every time current access is released due to Service request received in direct transfer with unknown-ptmsi value. |
| cur-iu-intra-rau-dt-ukn-ptmsi | This counter is incremented every time current access is released due to Local Intra RAU received in direct transfer with unknown-ptmsi value. |

| Field | Description |
|--|---|
| Rab-Not-Re-Estd-UL-Data-Stat | This field is added to display the number of RABs not re-established due to absence of NSAPI bit set in the Uplink Data Status IE. This field is also used as a measure to verify the reduction in radio signaling. |
| 3G-Pri-Actv-APN-Not-Sup-Rej | Total number of Primary 3G activate requests rejected due to absence of APN support. |
| 2G-Pri-Actv-APN-Not-Sup-Rej | Total number of Primary 2G activate requests rejected due to absence of APN support. |
| 3G-APN-Not-Supported-in-PLMN-RAT | Indicates if APN is not supported in PLMN-RAT combination in a 3G scenario. |
| 2G-APN-Not-Supported-in-PLMN-RAT | Indicates if APN is not supported in PLMN-RAT combination in a 2G scenario. |
| APN Not Supported in PLMN RAT combination Statistics | Statistics collected for APN not supported in PLMN RAT combination. |
| 3G-Pdp-Dropped-During-New-SGSN-RAU | Number of 3G PDP contexts dropped due to new SGSN-RAU. |
| 2G-Pdp-Dropped-During-New-SGSN-RAU | Number of 2G PDP contexts dropped due to new SGSN-RAU. |
| 3G-Pdp-Dropped-During-New-SGSN-SRNS | Number of 3G PDP contexts dropped due to new SGSN-SRNS. |
| Pdp-Dropped-During-3G-To-2G-IRAT | Number of 2G PDP contexts dropped due to new SGSN-SRNS. |
| 3G-Actv-NRPCA-Reject | Number of 3G activate NRPCA requests rejected. |
| Pdp-Dropped-During-2G-To-3G-IRAT | Number of PDP contexts dropped during 2G to 3G IRAT |
| APN not sup PLMN-RAT | Statistics collected for APN not supported in PLMN RAT combination. |
| Inbound Inter node SRNS failure | Number of inbound inter-node SRNS failures. |
| APN not sup in PLMN/RAT | Statistics collected for APN not supported in PLMN RAT combination. |
| Inbound Inter-RAU Fallback Statistics | Displays the inbound Inter RAU Fallback statistics. |
| 3G-Inbound Inter SGSN RAU Fallback to GTPV1 | This counter displays the number of 3G in-bound ISRAUs for which GTPv2 is restricted and RAU has succeeded over GTPv1. This counter is pegged during 3G in-bound ISRAU, when the S4-SGSN sends EGTP context Ack with failure cause to the peer as the subscriber's call-control profile has sgsn core-nw-interface configuration and initiates a GTP context request for a subscriber. |

| Field | Description |
|-------------------------------------|--|
| Inter-RAU Inbound Fallback to GTPV1 | This counter displays the number of 2G in-bound ISRAUs for which GTPv2 is restricted and RAU has succeeded over GTPv1. This counter is pegged during 2G in-bound ISRAU, when the S4-SGSN sends EGTP context ACK with failure cause to the peer as the subscriber's call-control profile has sgsn core-nw-interface gn configuration and initiates a GTP context request for a subscriber. |



CHAPTER 56

show gprs-service

This chapter includes the **show gprs-service** command output tables.

- [show gprs-service all, on page 1169](#)

show gprs-service all

Table 272: show gprs-service all Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Service name | The GPRS service name that is running in this session. |
| Context | Name of the VPN context in which specified GPRS service is running. |
| Status | Status of the GPRS service for which statistics are displayed. |
| Accounting Context Name | Name of the accounting context for this GPRS service to enable accounting parameters. |
| Self PLMN | Name of the PLMN of this GPRS service. |
| MAP Service | Name of the mobile application part (MAP) service configured in this GPRS service. |
| HSS Service | The name of the home subscriber service (HSS) associated with this GPRS service. |
| SGTP Service | Name of the SGSN GTP (SGTP) service configured in this GPRS service. |
| EGTP Service | The name of the EGTP service associated with this GPRS service. |
| CAMEL Service | The name of the CAMEL service associated with this GPRS service. |
| DSCP Template | The name of the DSCP template to be used for downlink packets with this GPRS service. |

| Field | Description |
|---------------------------------|---|
| GS Serviceeq | Name of the Gs service configured in this GPRS service to provide Gs interface support between an SGSN and an MSC/VLR. |
| SM-T3385 Timeout | The time-out duration in seconds for GPRS session management timer - T3385 on network side for PDP context activation. |
| SM-T3386 Timeout | The time-out duration in seconds for GPRS session management timer - T3386 on network side for PDP context modification. |
| SM-T3395 Timeout | The time-out duration in seconds for GPRS session management timer - T3395 on network side for PDP context deactivation. |
| SM-GUARD Timeout | The time duration, in seconds, after which session manager resources are cleared for this GPRS service. |
| SM-Max Activate Retries | Total number of retries for PDP context activation from GPRS session manager. |
| SM-Max Modify Retries | Total number of retries for PDP context modification from GPRS session manager. |
| SM-Max Deactivate Retries | Total number of retries for PDP context deactivation from GPRS session manager. |
| SM-Ignore PCO IE Decode Error | Indicates whether the decoding error ignored due to incorrect PCO IE length in SM messages is enabled/disabled. |
| SM-Trim Trailing Spaces in APN | Indicates whether the removal of any trailing space(s) in requested APN by SGSN is enabled/disabled. |
| SM-APN Partial match | Indicates whether the partial matching of requested APN during APN selection is enabled/disabled. |
| SM-APN(R) from First Sub Record | Indicates (enabled) that the selection of the APN from the first subscription record is to be used as the requested APN. |
| GMM TRAU Timeout | The time duration, in seconds, that the "old" 3G SGSN waits to purge the MSs data. This timer is started by the "old" SGSN after completion of an inter-SGSN RAU. |
| GMM-T3302 Timeout | The time, in seconds, that the system will wait before initiating a GPRS attach procedure or RAU procedure. |
| GMM-Mnr Timeout | The time-out duration in seconds for GPRS mobility management timer - Mobile Reachable on network side. |
| GMM-Purge Timeout | The time-out duration in seconds for GPRS mobility management timer - Purge to hold the detach of MM context on network side. |
| GMM-T3313 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for paging procedure initiation. |

| Field | Description |
|---------------------------------------|---|
| GMM-T3312 Timeout | The periodic routing area update timer delivered by the SGSN to the UE in the Attach Accept and the Routing Area Update Accept messages. |
| GMM-T3323 Timeout | The amount of time, in minutes, the UE will wait after the Periodic RAU timer (T3312 timer) expiry before deactivating Idle Mode Signaling Reduction. |
| GMM-T3370 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3370 on network side for identity request procedure. |
| GMM-Max Identity Retries | Maximum number of retries for identity request procedure from GPRS mobility manager. |
| GMM-T3360 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3360 on network side for Authentication and Cipher request procedure. |
| GMM-Max Auth Retries | Maximum number of retries for authentication request procedure from GPRS mobility manager. |
| GMM LLC Timeout | Configured timeout duration in seconds at the logical link control protocol message procedure from GPRS mobility manager. |
| GMM LLC PDU Life Time | Configured life time in seconds at the logical link control protocol message procedure from GPRS mobility manager. |
| GMM-Perform-Identity-After-Auth | Specifies whether "perform identity after authentication" procedure is enabled or not. |
| GMM Ciphering Algorithm | This group provides the ciphering algorithm configuration in this GPRS service. |
| Priority/..3 | Specifies the priority for GPRS Encryption Algorithm (GEA) configured for ciphering in this GPRS service. Possible GPRS encryption algorithms are: gea0: GPRS Encryption Algorithm 0 (GEA0)gea1: GPRS Encryption Algorithm 1 (GEA1)gea2: GPRS Encryption Algorithm 2 (GEA2)gea3: GPRS Encryption Algorithm 3(GEA3) |
| Accounting cdr-types | Specifies type of accounting CDRs configured in this GPRS service. Possible values are: mcd: Mobility CDR (M-CDR)scdr: SGSN CDR (S-CDR)sms mo-cdr: SMS Mobile Originated CDR (S-MO-CDR)sms mt-cdr: SMS Mobile Terminated CDR (S-MT-CDR) : Mobile Terminated Location request CDR (LCS-MT-CDR): Mobile Originated Location request CDR (LCS-MO-CDR) |
| Charging Characteristics(CC) Profiles | This group provides the charging characteristics (CC) profiles configured in this GPRS service |

| Field | Description |
|---|--|
| Profile <i>nn</i> | Specifies the charging characteristic (CC) profile configured in this SGSN service. <i>nn</i> is the number of CC profiles configured in this GPRS service and possible values are 1 through 15. |
| Buckets | Specifies the charging bucket configured for charging characteristic in this GPRS service |
| paging-scheme | Specifies the paging scheme configuration information in this GPRS service |
| max-page-retransmission | Specifies the maximum number of retries configured for paging in this GPRS service |
| paging-area | Specifies the paging area information in this GPRS service. |
| last-known-cell | Indicate the last known cell of the subscriber. |
| last-known-ra | Indicate the last known routing area of the subscriber. |
| last-known-la | Indicate the last known location area of the subscriber. |
| last-known-bsc | Indicate the last known base station controller (BSC) of the subscriber. |
| Network Global MME ID Mgmt DB | Indicates if a network global MME ID management database ID is associated with this GPRS service. This ID is used for GUTI to RAI mapping of networks with LACs for UTRAN and GERAN coverage in the 32768 - 65535 range. |
| TAI Management Database | Indicates if a Tracking Area Identifier (TAI) Management database is associated with this GPRS service. |
| MCC/MNC Encoding in DNS for RAI FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for RAI FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in SNAPTR Query . |
| MCC/MNC Encoding in DNS for APN FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for APN FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for RNC FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for RNC FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for MMEC FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in A/AAAA Query. |

| Field | Description |
|---|--|
| MCC/MNC Encoding in DNS for MMEC FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for TAI FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for TAI FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in SNAPTR Query. |
| NRI(s) that will be used in NON-POOLED area | Displays the list of NRIs used in the Non-Pooled area. |
| Gprs NRI value | Displays the NRI value and also indicates the status of offloading for each NRI. |
| NRI(s) that will be used in POOLED area | Displays the list of NRIs used in the Pooled area. |
| NRI(s) that will be used in POOLED & NON-POOLED area | Displays the list of NRIs used in the Non-Pooled and Pooled areas. |

show gprs-service all



CHAPTER 57

show gs-service

This chapter includes the **show gs-service** command output tables.

- [show gs-service all, on page 1175](#)

show gs-service all

Table 273: show gs-service all Command Output Descriptions

| Field | Description |
|----------------------|--|
| Service name | The Gs service that is running in this session. |
| State | Status of the Gs service. |
| Context | The name of the context in which Gs service is running. |
| SGSN Number | The E.164 number for the SGSN to associate with the Gs service. |
| SSN | Indicates the subsystem number configured or not. If configured it indicates SSN. |
| Self SCCP Network Id | Indicates the SCCP network identifier configured or not. If configured it indicates SSCP network identifier. |
| T6-1 Timeout | Indicates the retransmission timer (T6-1) value to guard the location update. Default: 10 seconds Range: 10 to 90 seconds |
| T8 Timeout | Indicates the retransmission timer (T8) value to guard the explicit IMSI detach from the GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds |

| Field | Description |
|---------------------------|--|
| T9 Timeout | Indicates the retransmission timer (T9) value to guard the explicit IMSI detach from the non-GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds |
| T10 Timeout | Indicates the retransmission timer (T10) value to guard the implicit IMSI detach from the non-GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds |
| T12-1 Timeout | Indicates the retransmission timer value (T12-1) in minutes to control the resetting of SGSN-Reset variable procedure. Default: 54 minutes (plus 8 seconds for transmission delay) Range: 0 to 380 minutes |
| T12-2 Timeout | Indicates the retransmission timer (T10) value to guard the SGSN reset procedure. Default: 4 seconds Range: 1 to 30 seconds |
| Max N8 Retries | Indicates the maximum retransmission allowed for procedure for explicit IMSI detach message from GPRS service (N8). Default: 2 retries Range: 0 to 10 retries |
| Max N9 Retries | Indicates the maximum retransmission allowed for procedure for explicit IMSI detach message from non-GPRS service (N9). Default: 2 retries Range: 0 to 10 retries |
| Max N10 Retries | Indicates the maximum retransmission allowed for procedure for implicit IMSI detach message from non-GPRS service (N10). Default: 2 retries Range: 0 to 10 retries |
| Max N12 Retries | Indicates the maximum retransmission allowed for N12 procedure for sending BSSAP+ Reset Indication message (N12). Default: 2 retries Range: 0 to 10 retries |
| GS Service Configurations | |

| Field | Description |
|-------------------------------|--|
| LAC Id | Indicates the subscriber location area code identifier configured in Gs service. Range: 1 through 65535 |
| Pool Type | Type of pool area (non-pool area or pool area) configured in Gs service. Possible values are: <ul style="list-style-type: none"> • Non Pool Area • Pool Area |
| Pool Area/ Non Pool Area name | Name of the configured Non-pool area or pool area in Gs service. |
| Pool Area Configurations | |
| Pool Area Name | Name of the configured pool area in Gs service. |
| Default Vlr | Name of the default VLR attached to this pool area. |
| LAC in Pool Area | Indicates the subscriber location area code identifier configured in this pool area. Range: 1 through 65535 |
| VLR Hash Type | Indicates the type of hash configured for this pool area. Possible values are: <ul style="list-style-type: none"> • Value • Range |
| Value / Range | Indicates the value of hash or range of hash. |
| Vlr Name | Name of the VLR attached to this pool area. |
| Non-Pool Area Configurations | |
| Non-Pool Area Name | Name of the configured non-pool area in Gs service. |
| Vlr Name | Name of the VLR attached to this non-pool area. |
| LAC in Pool Area | Indicates the subscriber location area code identifier configured in this non-pool area. Range: 1 through 65535 |
| VLR Configurations | |
| VLR Name | Name of the VLR attached to this Gs service. |
| ISDN Numbe | Indicates the E.164 ISDN number of configured VLR. |
| SSN | Indicates the subsystem number configured or not. If configured it indicates SSN. |

| Field | Description |
|------------|--|
| Point Code | Indicates the configured point code address for VLR in SS7 address format.a |
| SGSN Reset | Indicates whether SGSN reset function is allowed or not. Possible values are: <ul style="list-style-type: none">• TRUE• FALSE |



CHAPTER 58

show gtpc

This chapter includes the **show gtpc** command output tables.

- [show gtpc counters ggsn-service](#), on page 1179
- [show gtpc full](#), on page 1182
- [show gtpc summary callid](#), on page 1188
- [show gtpc statistics custom1](#), on page 1190
- [show gtpc statistics custom2](#), on page 1191
- [show gtpc statistics verbose](#), on page 1191

show gtpc counters ggsn-service

Table 274: show gtpc counters ggsn-service Command Output Descriptions

| Field | Description |
|---------------------------|--|
| APN Name | The name of the APN that the subscriber is currently accessing. |
| Callid | The call identification number that uniquely identifies the subscriber. |
| IMSI | The subscriber's International Mobile Subscriber Identity. |
| NSAPI | The subscriber's Network Service Access Point Identifier. |
| Updates PDP Context | |
| Update PDP Context RX | The total number of Update PDP Context Request messages received from the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s). |
| Update PDP Context Denied | |

| Field | Description |
|----------------------------------|---|
| System Failure | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Mandatory IE Incorrect: | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Updates PDP Context Sent | |
| Update PDP Context RX | The total number of Update PDP Context Request messages transmitted to the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages received from the SGSN(s). |
| Update Sent Reasons | |

| Field | Description |
|----------------------------------|--|
| IP Address Updated | The total number of Update PDP Context Request messages transmitted to the SGSN(s) because of a change in the IP address of the PDP context. |
| QoS Updated | The total number of Update PDP Context Request messages transmitted to the SGSN(s) because of a change in the quality of service (QoS) level for the PDP context. |
| Misc. Reasons | The total number of Update PDP Context Request messages transmitted to the SGSN(s) for other reasons. |
| Update PDP Context Deny Received | |
| System Failure | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure). |
| Non-existent | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Unsupported Service | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Mandatory IE Incorrect | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure). |

| Field | Description |
|-----------------------|--|
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| GTPU Receive | |
| Total Packets | The total number of GTPU packets received. |
| Total Bytes | The total number of GTPU bytes received. |
| GTPU Send | |
| Total Packets | The total number of GTPU packets transmitted. |
| Total Bytes | The total number of GTPU bytes transmitted. |

show gtpc full

Table 275: show gtpc full Command Output Descriptions

| Field | Description |
|------------------------|---|
| APN Name | The name of the APN that the subscriber is currently accessing. |
| Callid | The call identification number that uniquely identifies the subscriber. |
| User Name | The user name associated with this session. |
| User Address | Is the address of the user's PDP context in dotted decimal notation. |
| Session Type | Specifies the type of session for MBMS service. Possible values are: <ul style="list-style-type: none"> • MBMS UE • MBMS Multicast Bearer |
| Mcast Address | Displays the IP address of Broadcast Multicast service center. |
| Update MBMS Context RX | Total number of update messages received for MBMS context. |
| Accepted | Total number of update messages received and accepted for MBMS context |
| Denied | Total number of update messages received and denied for MBMS context |
| Discarded | Total number of update messages discarded for MBMS context |

| Field | Description |
|---------------------------|---|
| IMEI(SV) | Indicates the International Mobile Equipment Identity (and Software Version) (IMEI(SV)) of subscriber's mobile equipment. |
| IMSI | The subscriber's International Mobile Subscriber Identity. |
| NSAPI | The subscriber's Network Service Access Point Identifier. |
| GGSN Service | Specifies the name of a configured GGSN service that can be from 1 to 63 alpha and/or numeric characters and is case sensitive. |
| SGSN Address | Specifies the IP address for the SGSN. |
| MBMS Session Start | This group specifies the statistics of messages for MBMS session start. |
| MBMS Session Start TX | Total number of messages sent for MBMS session start. |
| Accepted | Total number of messages accepted for MBMS session start. |
| Denied | Total number of messages denied for MBMS session start. |
| MBMS Session Start Denied | This group specifies the statistics of reasons for denial of MBMS session. |
| No Resources | Total number of MBMS session start messages denied due to non-availability of resources. |
| No Memory | Total number of MBMS session start messages denied due to non-availability of memory. |
| System Failure | Total number of MBMS session start messages denied due to system failure. |
| Non-existent | Total number of MBMS session start messages denied due to non-existence of MBMS context. |
| Invalid Message Format | Total number of MBMS session start messages denied due to invalid message format. |
| Mandatory IE Incorrect | Total number of MBMS session start messages denied as mandatory information element was incorrect. |
| Mandatory IE Missing | Total number of MBMS session start messages denied as mandatory information element was missing. |
| Bearer Ctxt Superseded | Total number of MBMS session start messages denied as bearer context get superseded by information in message. |
| MBMS Session Stop | This group specifies the statistics of messages for MBMS session stop. |
| MBMS Session Stop TX | Total number of messages sent for MBMS session stop. |
| Accepted | Total number of messages accepted for MBMS session stop. |

| Field | Description |
|-------------------------------------|--|
| Denied | Total number of messages denied for MBMS session stop. |
| Charging ID | Contains an identifier used for correlating charging records and events. |
| Charging Characteristics Statistics | <p>Hot - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "1", representing "hot" billing.</p> <p>Normal - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "8", representing "normal" billing.</p> <p>Prepaid - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "4", representing "prepaid" billing.</p> <p>Flat - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "2", representing "flat-rate" billing.</p> |
| User Location Info Type | Indicates the type of User Location Information, Cell Global Identification (CGI) or Service Area Identity (SAI) of where the user currently is registered or available. |
| User Location Info | Indicates the information of User location, CGI or SAI. |
| MS TimeZone | The Time Zone MS is sending in the CPC/UPC message. |
| Daylight Saving Time | The number of hours the MS TimeZone is adjusted for Daylight Savings Time |
| CAMEL Charging Info | Indicates whether or not CAMEL charging information was received. |
| Length | The length of the CAMELInformationPDP IE |
| Payload Compression | Indicates whether payload compression is allowed or prohibited. |
| Transitions to Presv. Mode | <p>Indicates total number sessions in transitions state for preservation mode.</p> <p>Note: This is a customer specific counter and dependent of customer specific license only.</p> |
| Transitions to LORC state | <p>Indicates total number sessions in transitions state for overcharging protection support mode.</p> <p>This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.</p> |

| Field | Description |
|---------------------------------|--|
| GTP-U Tunnel Establishment | <p>Indicates if the particular session is using direct tunnel or not. Possible values are:</p> <ul style="list-style-type: none"> • Normal • Pending • Direct-Tunnel <p>Status "Pending" means that GGSN is switching from direct-tunnel to two tunnels for the particular session. "Normal" status indicates that particular context is not using Direct Tunnel.</p> |
| Updates PDP Context | |
| Update PDP Context RX | The total number of Update PDP Context Request messages received from the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s). |
| Update PDP Context Denied | |
| System Failure | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Mandatory IE Incorrect: | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |

| Field | Description |
|----------------------------------|--|
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Updates PDP Context Sent | |
| Update PDP Context TX | The total number of Update PDP Context Request messages transmitted to the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages received from the SGSN(s). |
| Update PDP Context Deny Received | |
| System Failure | The total number of "reject" Update PDP Context Response messages received with a cause code of 204 (CCH, System failure). |
| Non-existent | The total number of "reject" Update PDP Context Response messages received with a cause code of 192 (C0H, Non-existent). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages received with a cause code of 193 (C1H, Invalid message format). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages received with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages received with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Mandatory IE Incorrect: | The total number of "reject" Update PDP Context Response messages received with a cause code of 201 (C9H, Mandatory IE incorrect). |

| Field | Description |
|----------------------------------|---|
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages received with a cause code of 202 (CAH, Mandatory IE missing). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages received with a cause code of 203 (CBH, Optional IE incorrect). |
| GTPU Receive | |
| Total Packets | The total number of GTP User (GTPU) packets received. |
| Traffic Class | |
| Conversational | The number of GTPU packets received tagged with a traffic class of Conversational. |
| Streaming | The number of GTPU packets received tagged with a traffic class of Streaming. |
| Interactive 1 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 1. |
| Interactive 2 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 2. |
| Interactive 3 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 3, |
| Background | The number of GTPU packets received tagged with a traffic class of Background. |
| GTPU Send | |
| Total Packets | The total number of GTP User (GTPU) packets transmitted. |
| Traffic Class | |
| Conversational | The number of GTPU packets transmitted tagged with a traffic class of Conversational. |
| Streaming | The number of GTPU packets transmitted tagged with a traffic class of Streaming. |
| Interactive 1 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 1. |
| Interactive 2 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 2. |

| Field | Description |
|---------------|--|
| Interactive 3 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 3, |
| Background | The number of GTPU packets transmitted tagged with a traffic class of Background. |

show gtpc summary callid

Table 276: show gtpc summary callid Command Output Descriptions

| Field | Description |
|-----------------------|---|
| GTP Summary | Displays a brief status for GTP. |
| Update PDP Context RX | Displays the total number of Update PDP Context Request messages received. |
| Accepted | Displays the number of Update PDP Context Request messages received that were accepted. |
| Denied | Displays the number of Update PDP Context Request messages received that were denied. |
| Update PDP Context TX | Displays the total number of Update PDP Context Request messages transmitted. |
| Accepted | Displays the number of Update PDP Context Request messages received that were transmitted. |
| Denied | Displays the number of Update PDP Context Request messages received that were transmitted. |
| IP Address Updates | Displays the number of times the IP address was updated. |
| QoS Updates | Displays the number of times the quality of service (QoS) level was changed. |
| Misc. Updates | Displays the number of updates experienced. |
| Qos negotiation | |
| CPC Qos Accepted | The number of times QoS parameters received in Create PDP Context (CPC) Request messages were accepted. |
| CPC Qos Downgrade | The number of times QoS parameters received in Create PDP Context (CPC) Request messages were downgraded. |
| UPC Qos Accepted | The number of times QoS parameters received in Update PDP Context (UPC) Request messages were accepted. |

| Field | Description |
|--------------------|---|
| UPC Qos Downgraded | The number of times QoS parameters received in Update PDP Context (UPC) Request messages were downgraded. |
| GTPU Receive | |
| Total Packets | The total number of GTP User (GTPU) packets received. |
| Traffic Class | |
| Conversational | The number of GTPU packets received tagged with a traffic class of Conversational. |
| Streaming | The number of GTPU packets received tagged with a traffic class of Streaming. |
| Interactive 1 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 1. |
| Interactive 2 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 2. |
| Interactive 3 | The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 3, |
| Background | The number of GTPU packets received tagged with a traffic class of Background. |
| GTPU Send | |
| Total Packets | The total number of GTP User (GTPU) packets transmitted. |
| Traffic Class | |
| Conversational | The number of GTPU packets transmitted tagged with a traffic class of Conversational. |
| Streaming | The number of GTPU packets transmitted tagged with a traffic class of Streaming. |
| Interactive 1 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 1. |
| Interactive 2 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 2. |
| Interactive 3 | The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 3, |
| Background | The number of GTPU packets transmitted tagged with a traffic class of Background. |

show gtpc statistics custom1



Important These statistics are specific to Free-of-Charge service (FoCS) and Operator Determined Barring (ODB) support using private GTP-C extensions and enabled under customer-specific license. For more information on this support, contact your local representative.

Table 277: show gtpc statistics custom1 Command Output Descriptions

| Field | Description |
|--------------------------------------|---|
| Preservation Mode stats | Displays the statistics of GTP-C messages in preservation mode. |
| Sessions in preservation mode | Indicates total number sessions in preservation mode. |
| Transitions to preservation mode | Indicates total number sessions in transitions state from non-preservation mode to preservation mode. |
| Transitions to non-preservation mode | Indicates total number sessions in transitions state from preservation mode to non-preservation mode. |
| Free Of Charge Service stats | Displays the statistics of GTP-C messages for Free-of-Charge services. |
| Session stats | Indicates sessions statistics for FOCS and/or ODB enabled sessions. |
| FOCS | Indicates the total number of sessions Free-of-Charge services (FOCS) enabled status. |
| ODB | Indicates the total number of sessions with Operator Determined Barring enabled status. |
| Sessions release stats | Indicates the statistics for sessions, in preservation mode of using FOCS and/or ODB, released due to any reason |
| Other-reasons | Indicates the total number of sessions, in preservation mode of using FOCS and/or ODB, released due to reasons not specified in this table. |
| in-acl-disconnect-on-violation | Indicates the total number of sessions, in preservation mode of using FOCS and/or ODB, released due to ACL rule violation. |

show gtpc statistics custom2



Important These statistics are specific to private GTP-C extensions for overcharging protection on loss of radio coverage for a subscriber. For more information on this support, contact your local representative.

Table 278: show gtpc statistics custom2 Command Output Descriptions

| Field | Description |
|---------------------------|---|
| LORC Stats | This group indicates the status of loss of radio coverage extensions in GTP-C messages configured for overcharging protection. |
| Sessions in lorc state | Indicates the number of GGSN session are in LORC state and subscriber is in out of radio coverage area. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC. |
| Transitions to lorc state | Indicates total number sessions in transitions state for overcharging protection support mode. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC. |

show gtpc statistics verbose

Table 279: show gtpc statistics verbose Command Output Descriptions

| Field | Description |
|---------------------|--|
| Session Stats | |
| Total Current | The total number of PDP contexts currently being facilitated by the system. |
| S6b Assume Positive | The number of S6b assumed positive subscriber count being facilitated by the system. |
| IPv4 | The number of IPv4 PDP contexts currently being facilitated by the system. |
| PPP | The number of PPP PDP contexts currently being facilitated by the system. |

| Field | Description |
|-------------------|--|
| IPv4 Emergency | The number of non-emergency IPv4 calls. |
| Auth IMSI | The number of authorized IMSIs by SGSN (i.e. valid subscription). |
| UnAuth IMSI | The number of authentic IMSIs but NOT verified by SGSN. |
| Only IMEI | The IMSIs that have not been provided by the SGSN and the session is based on IMEI. |
| IPv6 | The number of IPv6 PDP contexts currently being facilitated by the system. |
| Network Initiated | The number of PDP contexts currently being facilitated by the system that were activated using the NRPA procedure. |
| IPv6 Emergency | The number of non-emergency IPv6 calls. |
| Auth IMSI | The number of authorized IMSIs by SGSN (i.e. valid subscription). |
| UnAuth IMSI | The number of authentic IMSIs but NOT verified by SGSN. |
| Only IMEI | The IMSIs that have not been provided by the SGSN and the session is based on IMEI. |
| IPv4v6 | The number of IPv4v6 PDP contexts currently being facilitated by the system. |
| MBMS UE | Total number of MBMS UE context connected. |
| MBMS Mcast Bearer | Total number of MBMS multicast bearer context connected. |
| MBMS Beas Bearer | Total number of MBMS broadcast bearer context connected. |
| Total Setup | The total number of PDP contexts that have been facilitated by the system since it was either powered up or since the statistics were last cleared -whichever is latest. |
| IPv4 | The total number of IPv4 PDP contexts that have been facilitated by the system. |
| PPP | The total number of PPP PDP contexts that have been facilitated by the system. |
| IPv4 Emergency | The total number of non-emergency IPv4 calls. |
| Auth IMSI | The number of authorized IMSIs by SGSN (i.e. valid subscription). |
| UnAuth IMSI | The number of authentic IMSIs but NOT verified by SGSN. |
| Only IMEI | The IMSIs that have not been provided by the SGSN and the session is based on IMEI. |

| Field | Description |
|----------------------------|---|
| IPv6 | The total number of IPv6 PDP contexts that have been facilitated by the system. |
| SGSN Initiated | The total number of SGSN-initiated PDP contexts that have been facilitated by the system |
| IPv6 Emergency | The number of non-emergency IPv6 calls. |
| Auth IMSI | The number of authorized IMSIs by SGSN (i.e. valid subscription). |
| UnAuth IMSI | The number of authentic IMSIs but NOT verified by SGSN. |
| Only IMEI | The IMSIs that have not been provided by the SGSN and the session is based on IMEI. |
| IPv4v6 | The number of IPv4v6 PDP contexts currently being facilitated by the system. |
| Network Initiated | The number of IPv4v6 PDP contexts currently being facilitated by the system that were activated using the NRPA procedure. |
| MBMS UE | Total number of MBMS UE context connected. |
| MBMS Mcast Bearer | Total number of MBMS multicast bearer context connected. |
| MBMS Bcast Bearer | Total number of MBMS broadcast bearer context connected. |
| Total Released | The total number of PDP contexts that have been released by the system. |
| Dynamic Address Allocation | |
| IPv4 Attempt | The total number of IPv4 sessions attempted with dynamic PDP address allocation. |
| Successful | The total number of IPv4 sessions successfully established with dynamic PDP address allocation. |
| IPv6 Attempt | The total number of IPv6 sessions attempted with dynamic PDP address allocation. |
| Successful | The total number of IPv6 sessions successfully established with dynamic PDP address allocation. |
| IP Authentication | |
| CHAP Auth Attempt | The total number PDP contexts that attempted CHAP authentication. |
| Successful | The total number PDP contexts that were successfully authenticated using CHAP. |

| Field | Description |
|-------------------------|--|
| Failure | The total number PDP contexts that failed authentication attempting to use CHAP. |
| PAP Auth Attempt | The total number PDP contexts that attempted PAP authentication. |
| Successful | The total number PDP contexts that were successfully authenticated using PAP. |
| Failure | The total number PDP contexts that failed authentication attempting to use PAP. |
| No Auth Requests | The total number PDP contexts that did not have authentication enabled. |
| Session Release Reasons | |
| SGSN Initiated | The total number of PDP contexts that have been released due to the receipt of a Delete PDP Context message from the SGSN(s). |
| Secondary Teardown | The total number of PDP contexts that have been released due to the termination of a secondary context (for example, a teardown flag was set in Delete PDP Context message received or a teardown happened due to the context replacement case). |
| Session Mgr. Died | The total number of PDP contexts that have been released due to the termination of the Session Manager task that was facilitating the contexts. |
| Admin Releases | The total number of PDP contexts that have been released due by the system administrator (for example, issuing the clear subscriber command, or stopping the GGSN service). |
| APN Removed | The total number of PDP contexts that have been released due to the removal of the APN configuration from the system. |
| Call Aborted | The total number of PDP contexts that have been released due to miscellaneous reasons such as the removal of a source or destination context on the system, etc. |
| Idle Timeout | The total number of PDP contexts that have been released due to the expiration of the idle timeout period as configured in the APN configuration mode. |
| Absolute Timeout | The total number of PDP contexts that have been released due to the expiration of the absolute timeout period as configured in the APN configuration mode. |
| Source Addr Violation | The total number of PDP contexts that have been released due to the detection of a source violation. |
| Flow Addition Failure | The total number of PDP contexts that have been released due to the system's failure to add a flow. |

| Field | Description |
|--------------------------|---|
| DHCP Renewal Failure | The total number of PDP contexts that have been released due to a DHCP lease renewal failure. |
| Long Duration Timeout | The total number of PDP contexts that have been released due to the expiration of the long duration timeout period. |
| Error Indication | The total number of PDP contexts that have been released due to an error indication. |
| Context replacement | The total number of PDP contexts that have been released due to a context replacement. |
| Other Reasons | The total number of PDP contexts that have been released due to other reasons. |
| Purged via Audit | The total number requests that were purged during Session Manager recovery. If the GTPCMgr did not get an audit request for a particular session, then it is released by GTPCMgr. |
| Update Handoff Reject | The total number of PDP contexts that have been released due to the receipt of a reject message during an update handoff. |
| LP Fallback Timeout | The total number of IP CAN sessions that have been released due to local policy timeout. |
| Total Path Failures | The total number of PDP contexts that have been released due to SGSN path failures detected by the system. |
| SGSN Restart | |
| Create PDP Req | The total number of PDP contexts that have been released due to path failures detected after sending a Create PDP Context Request message. |
| Update PDP Req | The total number of PDP contexts that have been released due to path failures detected after sending a Update PDP Context Request message. |
| Echo Response | The total number of PDP contexts that have been released due to path failures detected after sending an Echo Response message. |
| Timeout | |
| GTPC Echo Timeout | |
| GTPU Echo Timeout | |
| GGSN Req Timeout | |
| Path Management Messages | |
| Echo Request RX | The total number of Echo Requests received from SGSN(s). |

| Field | Description |
|------------------------------|---|
| Echo Response TX | The total number of Echo Responses sent to SGSN(s) in response to Echo Requests. |
| Echo Request TX | The total number of Echo Requests sent to the SGSN(s). |
| Echo Response RX | The total number of Echo Responses received from SGSN(s) in response to Echo Requests. |
| GTP-U Echo Request RX | The total number of GTPU Echo Requests received from SGSN(s). |
| GTP-U Echo Response TX | The total number of GTPU Echo Responses sent to SGSN(s) in response to GTPU Echo Requests. |
| GTP-U Echo Request TX | The total number of GTPU Echo Requests sent to the SGSN(s). |
| GTP-U Echo Response RX | The total number of GTPU Echo Responses received from SGSN(s) in response to GTPU Echo Requests. |
| Version Not Supported | |
| RX | The total number of Version Not Supported messages received. |
| TX | The total number of Version Not Supported messages transmitted. |
| Supported Ext. Headers Notif | |
| RX | The total number of supported extension headers notifications received. |
| TX | The total number of supported extension headers notifications transmitted. |
| Tunnel Management Messages | |
| Total CPC Req | The total number of Create PDP Context Request messages received. This is the sum of GTPC v0 and GTP v1 messages. |
| CPC Req(V1) | The total number of Create PDP Context Request messages received that used GTPC version 1. |
| CPC Req(V0) | The total number of Create PDP Context Request messages received that used GTPC version 0. |
| Primary CPC Req | The total number of Activate Primary PDP Context Request received. |
| Secondary CPC Req | The total number of Activate Secondary PDP Context Request received |
| Initial CPC Req | The total number of non-retransmitted Create PDP Context Requests for the primary PDP context. |

| Field | Description |
|-----------------------|--|
| Retransmitted | The total number of re-transmitted Create PDP Context Request messages received for either the primary or secondary PDP contexts. |
| Total Accepted | The total number of Create PDP Context Response messages transmitted containing a cause value of 128 (80H, Request accepted). |
| Total Denied | The total number of "reject" Create PDP Context Response messages transmitted. |
| Total Discarded | The total number of Create PDP Context Request messages received from the SGSN(s) that were discarded. |
| Update PDP Context RX | The total number of Update PDP Context Request messages received from the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s). |
| Update PDP Context TX | The total number of Update PDP Context Request messages transmitted to the SGSN(s). |
| Accepted | The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Update PDP Context Response messages received from the SGSN(s). |
| Delete PDP Context RX | The total number of Delete PDP Context Request messages received from the SGSN(s). |
| Accepted | The total number of Delete PDP Context Response messages transmitted containing a cause value of 128 (80H, Request accepted). |
| Denied | The total number of "reject" Delete PDP Context Response messages transmitted. |
| Discarded | The total number of Delete PDP Context Request messages received from the SGSN(s) that were discarded |
| Delete PDP Context TX | The total number of Delete PDP Context Request messages transmitted to the SGSN(s). |
| Accepted | The total number of Delete PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted). |

| Field | Description |
|---|--|
| Denied | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s). |
| Error Indication RX | The total number of error indication messages received from the SGSN(s). |
| Error Indication TX | The total number of error indication messages transmitted to the SGSN(s). |
| PDU Notification | The total number of PDU notifications sent by GGSN as a part of the NRPA procedure. |
| Accepted | The total number of accepted PDU notifications sent by GGSN as a part of the NRPA procedure. |
| Denied | The total number of rejected PDU notifications sent by GGSN as a part of the NRPA procedure. |
| PDU Notificatn Reject | The total number of PDU Notification Rejects that were received. |
| Accepted | The total number of PDU Notification Rejects that were received and accepted. |
| Denied | The total number of PDU Notification Rejects that were received and rejected. |
| Discarded | The total number of PDU Notification Rejects that were received and discarded. |
| GTP-U Tunnel Establishment with RNC | |
| Direct Tunnels Established | Indicates the number of times direct tunnels established between GGSN and RNC as instructed by SGSN in Update PDP Context Request. |
| Direct Tunnels torn down by SGSNs | Indicates the total number of times direct tunnels between GGSN and RNC are removed as instructed by SGSN in Update PDP Context Request. |
| Direct Tunnels that received Error Indication | Indicates the total number of Direct Tunnels that have received GTP Error Indication from RNC. This statistic counts GTP Error Indication only once per Direct Tunnel. |
| Update PDP Tx Reasons | |
| QoS Change | The number of Update PDP Context Request messages were sent when the GGSN requested the QoS Profile information to the SGSN. |
| Providing PDP address | The providing PDP address that is sent to the SGSN. |
| Direct Tunnel Flags update | Indicates the number of Update PDP Context Requests going out of GGSN towards SGSN with direct tunnel flags IE. |

| Field | Description |
|-------------------------------|--|
| Update PDP Context Rx Reasons | |
| SGSN Handoff | The total number SGSN handoffs that have been completed for which PDP context updated. |
| SGSN Group Handoff | The total number handoffs between SGSN groups that have been completed for which PDP context updated. |
| Create PDP Context Denied | |
| No Resources | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 199 (C7H, No resources available). NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - No Resource Reasons of this table. |
| No Memory | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 212 (D4H, No memory is available). NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - No Memory of this table. |
| All Dyn Addr Occupied | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 211 (D3H, All dynamic PDP addresses are occupied). NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - Dynamic Address Occupied of this table. |
| User Auth Failed | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (D1H, User authentication failed). NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - Auth Failure Reasons section of this table. |
| Unknown/Missing APN | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 219 (DBH, Missing or unknown APN). |
| System Failure | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure). NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - System Failure Reasons section of this table. |

| Field | Description |
|----------------------------------|--|
| Unknown PDP Addr/Type | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 220 (DCH, Unknown PDP address or PDP type).</p> <p>NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - Unknown PDP Addr or Type section of this table.</p> |
| Unsupported Version | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 198 (C6H, version not supported).</p> |
| Semantic Error in TFT | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).</p> |
| Syntactic Error in TFT | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).</p> |
| Semantic Error in Packet Filter | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).</p> |
| Mandatory IE Incorrect | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).</p> <p>NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - Mandatory IE Incorrect section of this table.</p> |
| Mandatory IE Missing | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).</p> |
| Syntactic Error in Packet Filter | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).</p> |
| Optional IE Incorrect | <p>The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).</p> <p>NOTE: Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the Create PDP Denied - Optional IE Incorrect section of this table.</p> |

| Field | Description |
|---|--|
| Invalid Message Format | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Context Not Found | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 210 (D2H, Context not found). |
| Service not Supported | The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 200 (C8H, Service not supported). |
| APN restriction Incompatibility | |
| No APN Subscription | Indicates that the GGSN has denied the user access to an APN because a subscription is required, but the subscriber does not have the necessary subscription. |
| Create PDP Denied - No Resource Reasons | |
| PLMN Policy Reject | The PLMN policy configured for the GGSN service processing the request is configured to reject the SGSN's requests. |
| New Call Policy Reject | The system is configured with a newcall policy to reject new sessions. |
| APN/Svc Capacity | The APN being accessed is currently facilitating the maximum number of PDP contexts specified in its configuration (refer to the max-contexts command in the APN configuration mode). |
| Input-Q Exceeded | The queue size between demux-mgr and session managers has been exceeded due to pending requests. |
| No Session Manager | No Session Manager task is available to process the request. |
| Session Manager Dead | The Session Manager Task assigned to the PDP context was terminated. |
| Secondary For PPP | A secondary request for PPP was received. |
| Other Reasons | Other reasons not listed here. |
| Session Mgr Retried | Multiple Session Manager Tasks were unable to accept the request. |
| Session Mgr Not Ready | The Session Manager Task assigned to the PDP context was not ready to accept the request. |
| Session Setup Timeout | The total number of Create PDP Context (CPC) reject due to session setup timeout |
| Charging Svc Auth Fail | Authorization with the charging service failed. |
| APN Reject Policy | |

| Field | Description |
|---|---|
| ICSR State Invalid | Indicates that the Create PDP request was denied because the interchassis session recovery state is invalid. |
| DHCP IP Address Not Present | DHCP-assigned IP addresses were not available for assignment to the PDP Context. |
| Radius IP Validation Failed | RADIUS IP validation failed. |
| S6B IP Validation Failed | |
| Congestion Policy Applied | The system entered a state resulting in the invocation of a GGSN service "reject" congestion policy. |
| Exceeded secondary-pdp-context limit per-subscriber | |
| GTP-v0 IP address allocation/validation failed | IP address allocation or validation failed. |
| Mediation Delay GTP Response Accounting Start failed: | The number of call setup failures due to Accounting Start failures with delay GTP response feature enabled. |
| Create PDP Denied - Auth Failure Reasons | |
| Authentication Failed | The total number of requests rejected due to incorrect username/password. |
| AAA Auth Req Failed | The total number of requests rejected due to authentication failure requests. |
| APN selection-mode mismatch | The total number of requests rejected due to a conflicting configuration of the Selection Mode in the Create PDP Context request and the APN. |
| Non-Existent Virtual APN | The request is rejected due to an invalid APN. |
| Reject Foreign Subscriber | |
| IMS Authorization Fail | |
| Create PDP Denied - No Memory | |
| No More AAA Sessions | The total number of requests rejected due to the system not having AAA session handles available. |
| Misc. Reasons | The total number of requests rejected due to the system not being able to allocate the memory required for processing the request. |
| Create PDP Denied - Unknown PDP Addr or Type | |
| Invalid IP Address | The total number of requests rejected due to the receipt of an invalid IP address (i.e. 0.0.0.0) from the SGSN. |
| Conflict IP Address | The total number of requests rejected due to a conflict between the IP addresses provided by the MS and RADIUS servers. |

| Field | Description |
|--|--|
| Static Address Not Present | The total number of requests rejected due to the MS not having a static address when the system is configured with an IP address allocation method of static. |
| Static Address Not Allowed | The total number of requests rejected due to the system's IP address allocation method being configured for static, but the Create PDP Context Request message requests dynamic allocation. |
| Static IP Validation Failed | The total number of requests rejected due to the validation failure of the static IP address offered by the MS. |
| Local Pool Static Address Not Allowed | The total number of requests rejected due to the MS offering a static IP address that is not configured in a pool on the system. |
| DHCP IP Validation Failed | The total number of requests rejected due to the validation failure of the IP address allocated by DHCP. |
| DHCP Relay Static Address Not Allowed | The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP relay. |
| DHCP Proxy Static Address Not Allowed | The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP proxy. |
| DHCP Local Pool Static Address Not Allowed | The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP local pool. |
| DHCP Client Static Address Not Allowed | The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP client. |
| PDP Type Mismatch or Unknown PDP Type | The total number of requests rejected due to an unknown PDP type or a PDP type that does not match with the one configured for the APN using the pdp-type command. |
| Create PDP Denied - Dynamic Address Occupied | |
| DHCP No IP Address Alloc | The total number of requests rejected due to a failure in DHCP IP address allocation. |
| DHCP Timer Notification | The total number of requests rejected due to an expiration of the system's DHCP timer prior to the receipt of a reply from the DHCP server resulting in a failure to allocate an IP address. |
| Local IP Validation Failed | The total number of requests rejected due to an IP address validation failure. |
| Local IP Pool All Address Occupied | The total number of requests that are occupied due to an IP address is occupied. |
| Create PDP Denied - System Failure Reasons | |

| Field | Description |
|--|---|
| Misc. Reasons | The total number of requests rejected due to miscellaneous reasons. |
| Create PDP Denied - Mandatory IE Incorrect | |
| NSAPI | The total number of requests rejected due to an invalid NSAPI. |
| Create PDP Denied - Optional IE Incorrect | |
| Private Extention | The total number of requests rejected due to incorrect optional information elements in the request such as private extensions. |
| Create PDP Discard Reasons | |
| No Session | The total number of requests discarded due to no session being found for the secondary context request. |
| No Memory | The total number of requests discarded due to no memory being available on the system to allocate for the request. |
| Malformed Message | The total number of requests discarded due to the request being poorly formed. |
| Invalid Ctrl TEID | The total number of requests discarded due to an invalid control TEID in the request. |
| Internal Bounce Error | The total number of requests discarded due to a bounce in an internal system message. |
| Misc. Reasons | The total number of requests discarded due to miscellaneous reasons. |
| Version Not Supported | The total number of requests discarded due to the request using an unsupported version. |
| Congestion Policy Applied | The system entered a state resulting in the invocation of a GGSN service "drop" congestion policy. |
| ICSR State Invalid | Indicates that the Create PDP request was denied because the interchassis session recovery state is invalid. |
| Update PDP Context Denied | |
| No Resources | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 199 (C7H, No resources available). |
| No Memory | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 212 (D4H, No memory is available). |

| Field | Description |
|----------------------------------|---|
| System Failure | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure). |
| Non-existent | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 192 (C0H, Non-existent). |
| Unsupported Service | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 200 (C8H, Service not supported). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Mandatory IE Incorrect | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Update PDP Context Deny Received | |
| No Resources | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 199 (C7H, No resources available). |

| Field | Description |
|----------------------------------|--|
| No Memory | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 212 (D4H, No memory is available). |
| System Failure | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure). |
| Non-existent | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 192 (C0H, Non-existent). |
| Unsupported Service | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 200 (C8H, Service not supported). |
| Invalid Message Format | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Semantic Error in TFT | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation). |
| Syntactic Error in TFT | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation). |
| Semantic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)). |
| Mandatory IE Incorrect | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Syntactic Error in Packet Filter | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)). |
| Optional IE Incorrect | The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Delete PDP Context Denied | |

| Field | Description |
|------------------------------------|---|
| Mandatory IE Incorrect | The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Optional IE Incorrect | The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |
| Invalid Message Format | The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Non-existent | The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 192 (C0H, Non-existent). |
| Delete PDP Context Discard Reasons | |
| No Memory | The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to no memory being available to process the request. |
| Pacing Queue Exceeded | The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to there being too many requests pending in the Session Manager Task's Pacing Queue. |
| Recovery Session Fail | The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to the recovery of a demux-manager resulting in its inability to queue the request for processing. |
| ICSR State Invalid | Indicates that the delete PDP request was denied because the interchassis session recovery state is invalid. |
| Delete PDP Context Deny Received | |
| Mandatory IE Incorrect | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing). |
| Optional IE Incorrect | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). |

| Field | Description |
|---|--|
| Invalid Message Format | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format). |
| Non-existent | The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 192 (C0H, Non-existent). |
| Location Management Messages | |
| Send Routeing Info | The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s). |
| Accepted | The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were accepted. |
| Denied | The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied. |
| Failure Report | The total number of Failure Report messages sent by the GGSN to the SGSN(s). |
| Accepted | The total number of Failure Report messages sent by the GGSN to the SGSN(s) that were accepted. |
| Denied | The total number of Failure Report messages sent by the GGSN to the SGSN(s) that were denied. |
| Note MS GPRS Present | The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s). |
| Accepted | The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were accepted. |
| Denied | The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were denied. |
| Discarded | The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were discarded. |
| Send Routing Information Request Failure Causes | |
| No Resources Available | The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 199 (C7H, No resources available). |
| Service Not Supported | The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 200 (C8H, Service not supported). |
| System Failure | The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 204 (CCH, System failure). |

| Field | Description |
|--|--|
| Mandatory IE Incorrect | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 202 (CAH, Mandatory IE missing). |
| Optional IE Incorrect | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 203 (CBH, Optional IE incorrect). |
| Invalid Message Format | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 193 (C1H, Invalid message format). |
| No Proxy Found | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied because no proxy MAP configuration was located for the NRPA procedure. |
| Proxy Not Reachable | The total number of Note to Send Routing Info Request messages sent by the GGSN to the SGSN(s) that were denied because the configured MAP proxy is unreachable (i.e. not responding to SRI requests). |
| Send Routing Information Failure MAP Causes | |
| Subscriber Absent | The total number of Send Routing Info Request responses received with a failure MAP cause of subscriber absent. |
| System Failure | The total number of Send Routing Info Request responses received with a failure MAP cause of system failure. |
| Data Missing | The total number of Send Routing Info Request responses received with a failure MAP cause of data missing. |
| Unexpected Data | The total number of Send Routing Info Request responses received with a failure MAP cause of unexpected data. |
| Unknown Subscriber | The total number of Send Routing Info Request responses received with a failure MAP cause of unknown subscriber. |
| Facility Not Supported | The total number of Send Routing Info Request responses received with a failure MAP cause of facility not supported. |
| Unauthorized Network | The total number of Send Routing Info Request responses received with a failure MAP cause of unauthorized network. |
| Call Barred | |
| Note MS GPRS Present Request Failure Causes: | |
| Mandatory IE Incorrect | |

| Field | Description |
|---------------------------------|--|
| Mandatory IE Missing | |
| PDU Notification Failure Causes | |
| Unsupported Service | The total number of PDU Notification responses received with a failure cause code of 200 (C8H, Service not supported). |
| System Failure | The total number of PDU Notification responses received with a failure cause code of 204 (CCH, System failure). |
| MS GPRS Detached | The total number of PDU Notification responses received with a failure cause code of 195 (C3H, MS is GPRS Detached). |
| GPRS Cnxn Suspended | The total number of PDU Notification responses received with a failure cause code of 207 (CFH, GPRS connection suspended). |
| Mandatory IE Incorrect | The total number of PDU Notification responses received with a failure cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of PDU Notification responses received with a failure cause code of 202 (CAH, Mandatory IE incorrect). |
| Optional IE Incorrect | The total number of PDU Notification responses received with a failure cause code of 203 (CBH, Optional IE incorrect). |
| Invalid Message Format | The total number of PDU Notification responses received with a failure cause code of 193 (C1H, Invalid message format). |
| Unknown IMSI | The total number of PDU Notification responses received with a failure cause code of 194 (C2H, IMSI not known). |
| Roaming Restriction | |
| No Resources | The total number of PDU Notification responses received with a failure cause code of 199 (C7H, No resources available). |
| PDU Notification Reject Causes | |
| MS Not GPRS Responding | The total number of PDU Notification responses received with a reject cause code of 196 (C4H, MS is not GPRS Responding). |
| MS Refuses | The total number of PDU Notification responses received with a reject cause code of 197 (C5H, MS Refuses). |
| Mandatory IE Incorrect | The total number of PDU Notification responses received with a reject cause code of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of PDU Notification responses received with a reject cause code of 202 (CAH, Mandatory IE incorrect). |
| Optional IE Incorrect | The total number of PDU Notification responses received with a reject cause code of 203 (CBH, Optional IE incorrect). |

| Field | Description |
|--|--|
| Invalid Message Format | The total number of PDU Notification responses received with a reject cause code of 193 (C1H, Invalid message format). |
| MS Info Change Reporting Messages: | |
| MS Info Chng Notif Req | |
| Accepted | |
| Denied | |
| Discarded | |
| MS Info Change Reporting Message Failure Causes: | |
| Invalid Message Format | |
| Unknown IMSI | |
| Mandatory IE Incorrect | |
| Mandatory IE Missing | |
| Optional IE Incorrect | |
| System Failure | |
| Qos QCI Stats | |
| QCI 1 | |
| CPC QoS Accepted | The number of QoS requests with QCI 1 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci1 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci1 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci1 coming from UPC were downgraded. |
| QCI 2 | |
| CPC QoS Accepted | The number of QoS requests with qci 2 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci2 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 2 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |

| Field | Description |
|--------------------|--|
| UPC QoS Downgraded | The number of QoS requests with qci 2 coming from UPC were downgraded. |
| QCI 3 | |
| CPC QoS Accepted | The number of QoS requests with qci 3 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 3 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 3 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 3 coming from UPC were downgraded. |
| QCI 4 | |
| CPC QoS Accepted | The number of QoS requests with qci 4 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 4 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 4 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 4 coming from UPC were downgraded. |
| QCI 5 | |
| CPC QoS Accepted | The number of QoS requests with qci 5 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 5 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 5 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 5 coming from UPC were downgraded. |
| QCI 6 | |
| CPC QoS Accepted | The number of QoS requests with qci 6 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 6 coming from CPC were downgraded. |

| Field | Description |
|--------------------|--|
| UPC QoS Accepted | The number of QoS requests with qci 6 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 6 coming from UPC were downgraded. |
| QCI 7 | |
| CPC QoS Accepted | The number of QoS requests with qci 7 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 7 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 7 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 7 coming from UPC were downgraded. |
| QCI 8 | |
| CPC QoS Accepted | The number of QoS requests with qci 8 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 8 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 8 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 8 coming from UPC were downgraded. |
| QCI 9 | |
| CPC QoS Accepted | The number of QoS requests with qci 9 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading. |
| CPC QoS Downgraded | The number of QoS requests with qci 9 coming from CPC were downgraded. |
| UPC QoS Accepted | The number of QoS requests with qci 9 coming from Update PDP Context (UPC) were accepted as it is without any downgrading. |
| UPC QoS Downgraded | The number of QoS requests with qci 9 coming from UPC were downgraded. |
| GTPC Receive | |
| Total Packets | The total number of GTPC packets received. |
| Total Bytes | The total number of GTPC bytes received. |

| Field | Description |
|--|---|
| GTPC Send | |
| Total Packets | The total number of GTPC packets transmitted. |
| Total Bytes | The total number of GTPC bytes transmitted. |
| GTPC Outgoing Throttling: | |
| Total Messages Rate Limited | |
| Total Messages Rate Limited No Delay | |
| Total Messages Queued | |
| Total Messages Aborted From Queue | |
| Total Messages Throttled | |
| Prioritized APN/ARP Statistics: | |
| CPC Req allowed under APN prioritization | |
| CPC Req allowed under ARP prioritization | |
| GTPC Incoming Throttling: | |
| Total Messages Rate Limited | |
| Total Messages Scheduled | |
| Total Messages Currently Queued | |
| Total Messages Dropped From Queue | |
| Total Messages Throttled | |



CHAPTER 59

show gtpc-load-control-profile full all

- [show gtpc-load-control-profile full all](#), on page 1215

show gtpc-load-control-profile full all

This chapter includes the output of the **show gtpc-load-control-profile full all** command.

Table 280: show gtpc-load-control-profile full all Command Output Descriptions

| Field | Description |
|--|--|
| GTP-C Load Control Profile Name | The name of this configured Load Control Profile. A string of 1 to 64 alphanumeric characters. |
| Weightage | |
| System CPU Utilization Weightage | The weightage, as a percentage of 100, configured for system CPU utilization for this Load Control Profile. |
| System Memory Utilization Weightage | The weightage, as a percentage of 100, configured for memory utilization for this Load Control Profile. |
| License Session Utilization Weightage | The weightage, as a percentage of 100, configured for license session utilization for this Load Control Profile. |
| Inclusion Frequency | |
| Change Factor | The change factor, as a percentage of 1 to 20, configured for this Load Control Profile. |
| Advertisement Interval | The configured advertisement-interval for this Load Control Profile. Valid entries are from 0 to 3600 seconds. The default is 300 seconds. |
| Load control information Handling | |
| Homer | Indicates if load control information handling is enabled for the home PLMN. |

| Field | Description |
|--|---|
| Visitor | Indicates if load control information handling is enabled for the visited PLMN. |
| Load control information Publishing | |
| Homer: | Indicates if load control information publishing is enabled for the home PLMN. |
| Visitor | Indicates if load control information publishing is enabled for the visited PLMN. |
| Load Threshold | |
| Threshold | The load threshold setting configured for this node. |



CHAPTER 60

show gtpc-overload-control-profile full all

- [show gtpc-overload-control-profile full all, on page 1217](#)

show gtpc-overload-control-profile full all

This chapter includes the show gtpc-overload-control-profile full all command output table.

Table 281: show gtpc-overload-control-profile full all Command Output Descriptions

| Field | Description |
|---------------------------------------|--|
| Weightage | |
| System CPU Utilization Weightage | The weightage, as a percentage of 100, configured for system CPU utilization for this Overload Control Profile. |
| System Memory Utilization Weightage | The weightage, as a percentage of 100, configured for memory utilization for this Overload Control Profile. |
| License Session Utilization Weightage | The weightage, as a percentage of 100, configured for license session utilization for this Overload Control Profile. |
| Tolerance | |
| Report Reduction Metric | The configured report reduction metric, as a percentage of 100, configured for this Overload Control Profile. |
| Self Protection Limit | The configured self-protection limit, as a percentage of 100, configured for this Overload Control Profile. |
| Initial-Reduction-Metric | The initial reduction metric, as a percentage of 100, configured for this Overload Control Profile. |
| Inclusion Frequency | |
| Change Factor | The change factor, as a factor of 1 to 20, configured for this Load Control Profile. |

| Field | Description |
|--|--|
| Advertisement Interval | The configured advertisement-interval for this Load Control Profile. Valid entries are from 0 to 3600 seconds. The default is 300 seconds. |
| Validity Period | The configured validity period, configured for this Overload Control Profile, after which the overload control information will no longer be valid. |
| Throttling Profile | |
| Exclude Emergency Events | Indicates if excluding the emergency events from throttling due to the peer's overload reduction metric is enabled or disabled for this Overload Control Profile. n/a indicates that Exclude Emergency Events is disabled. |
| Exclude EARP | Indicates which messages with earp (one or more of messages 1-15) are configured to be excluded from throttling for this Overload Control Profile. n/a indicates that Exclude EARP is disabled. |
| Self-Protection Behavior | |
| Exclude EARP | Indicates if self-protection-behavior is configured for up to three EARP values. This setting configures the node so that incoming request messages for the configured evolved ARP priority values are not rejected even if the system is under self-protection mode. n/a indicates that self-protection behavior is disabled for EARP(s). |
| Exclude APN | Indicates if self-protection-behavior is configured for up to three APNs. n/a indicates that self-protection behavior is disabled for APN(s). |
| Overload control information Handling | |
| Homer: | Indicates if the handling of overload control information for the home PLMN is enabled or disabled. |
| Visitor: | Indicates if the handling of overload control information for the visited PLMN is enabled or disabled. |
| Overload control information Publishing | |
| Homer: | Indicates if the publishing of overload control information for the home PLMN is enabled or disabled. |
| Visitor: | Indicates if the publishing of overload control information for the visited PLMN is enabled or disabled. |
| Message Prioritization | |

| Field | Description |
|--------|---|
| Group1 | <p>Indicates the message prioritization, as a percentage of 100, configured for the following group of messages (group1):</p> <ul style="list-style-type: none">• Update Bearer Request message for default bearer generated from P-GW ingress• Update Bearer Request message for dedicated bearer generated from P-GW ingress• Handoff Create Session Request message generated from ePDG egress. <p>The default setting is 60%.</p> |
| Group2 | <p>Indicates the message prioritization, as a percentage of 100, configured for the following group of messages (group2):</p> <ul style="list-style-type: none">• Create Bearer Request message for default bearer generated from P-GW ingress• PDN connection requested Create Session Request message from ePDG egress <p>The default setting is 40%.</p> |



CHAPTER 61

show gtp

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show gtp accounting servers

Table 282: show gtp accounting servers Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| Context Name | The name of the system context in which the CGF is configured. |
| Primary Accounting server address | The IP address of the CGF. |
| port | The TCP port over which GTPP messaging is performed. |
| priority | The configured priority of the CGF. |
| State | The status of the CGF as Active or Inactive. |
| Group | The GTPP server group name in which this server is configured. |

show gtp counters all

Table 283: show gtp counters all Command Output Descriptions

| Field | Description |
|---------------------------------------|--|
| Outstanding GCDRs | The current total number of G-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding GCDRs | The total number of G-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived GCDRs | The current total number of G-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| GCDRs buffered with AAAPROXY | The current total number of G-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| GCDRs buffered with AAAMGR | The current total number of G-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding eGCDRs | The current total number of eG-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding eGCDRs | The total number of eG-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived eGCDRs | The current total number of eG-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| eGCDRs buffered with AAAPROXY | The current total number of eG-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| eGCDRs buffered with AAAMGR | The current total number of eG-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding MCDRs | The current total number of M-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding MCDRs | The total number of M-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |

| Field | Description |
|---|---|
| Archived MCDRs | The current total number of M-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| MCDRs buffered with AAAPROXY | The current total number of M-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| MCDRs buffered with AAAMGR | The current total number of M-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding PGWGCDRs | The current total number of PGW G-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding PGWGCDRs | The total number of PGW G-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived PGWGCDRs | The current total number of PGW G-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| PGWGCDRs buffered with AAAPROXY | The current total number of PGW G-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| PGWGCDRs buffered with AAAMGR | The current total number of PGW G-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding SCDRs | The current total number of S-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding SCDRs | The total number of S-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived SCDRs | The current total number of S-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| SCDRs buffered with AAAPROXY | The current total number of S-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| SCDRs buffered with AAAMGR | The current total number of S-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |

| Field | Description |
|--|---|
| Outstanding S-SMO-CDRs | The current total number of S-SMO-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding S-SMO-CDRs | The total number of S-SMO-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived S-SMO-CDRs | The current total number of S-SMO-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| S-SMO-CDRs buffered with AAAPROXY | The current total number of S-SMO-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| S-SMO-CDRs buffered with AAAMGR | The current total number of S-SMO-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding S-SMT-CDRs | The current total number of S-SMT-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding S-SMT-CDRs | The total number of S-SMT-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived S-SMT-CDRs | The current total number of S-SMT-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| S-SMT-CDRs buffered with AAAPROXY | The current total number of S-SMT-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| S-SMT-CDRs buffered with AAAMGR | The current total number of S-SMT-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding LCS-MT-CDRs | The current total number of LCS-MT-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding LCS-MT-CDRs | The total number of LCS-MT-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived LCS-MT-CDRs | The current total number of LCS-MT-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |

| Field | Description |
|--|--|
| LCS-MT-CDRs buffered with AAAPROXY | The current total number of LCS-MT-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| LCS-MT-CDRs buffered with AAAMGR | The current total number of LCS-MT-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding LCS-MO-CDRs | The current total number of LCS-MO-CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding LCS-MO-CDRs | The total number of LCS-MO-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived LCS-MO-CDRs | The current total number of LCS-MO-CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| LCS-MO-CDRs buffered with AAAPROXY | The current total number of LCS-MO-CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| LCS-MO-CDRs buffered with AAAMGR | The current total number of LCS-MO-CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding GMBH CDRs | The current total number of GMBH CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding GMBH CDRs | The total number of GMBH CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived GMBH CDRs | The current total number of GMBH CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| GMBH CDRs buffered with AAAPROXY | The current total number of GMBH CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| GMBH CDRs buffered with AAAMGR | The current total number of GMBH CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding SGW CDRs | The current total number of S-GW CDRs sent to the CGF(s) for which no response was received. |

| Field | Description |
|---|--|
| Possibly Duplicate Outstanding SGW CDRs | The total number of S-GW CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived SGW CDRs | The current total number of S-GW CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| SGW CDRs buffered with AAAPROXY | The current total number of S-GW CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| SGW CDRs buffered with AAAMGR | The current total number of S-GW CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| WLAN CDRs buffered with AAAPROXY | The current total number of WLAN CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| WLAN CDRs buffered with AAAMGR | The current total number of WLAN CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding ePDG CDRs | The current total number of ePDG CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding ePDG CDRs | The total number of ePDG CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |
| Archived ePDG CDRs | The current total number of ePDG CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| ePDG CDRs buffered with AAAPROXY | The current total number of ePDG CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| ePDG CDRs buffered with AAAMGR | The current total number of ePDG CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |
| Outstanding SMBMS CDRs | The current total number of SMBMS CDRs sent to the CGF(s) for which no response was received. |
| Possibly Duplicate Outstanding SMBMS CDRs | The total number of SMBMS CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet" |

| Field | Description |
|-----------------------------------|---|
| Archived SMBMS CDRs | The current total number of SMBMS CDRs achieved by CGF. Note This counter is only present if the all keyword is used. |
| SMBMS CDRs buffered with AAAPROXY | The current total number of SMBMS CDRs buffered by the system's AAA Proxy tasks. Note This counter is only present if the all keyword is used. |
| SMBMS CDRs buffered with AAAMGR | The current total number of SMBMS CDRs buffered by the system's AAA Manager tasks. Note This counter is only present if the all keyword is used. |

show gtp group

Table 284: show gtp group Command Output Descriptions

| Field | Description |
|---|---|
| Group name | The GTPP server group name. |
| Context | The context name of the configured GTPP group. |
| CDR timeout | Indicates the configured timeout duration in seconds for CDRs. |
| CDR max-retries | Indicates the configured maximum retries for CDR. |
| ECHO timeout | Indicates the configured timeout duration in seconds for ECHO message. |
| ECHO max-retries | Indicates the configured maximum retries for ECHO message. |
| Dead time | Indicates the dead time for specific GTPP group. |
| Detect-dead-server consecutive-failures | Indicates the total consecutive failure of dead server detection probe. |
| Dead-server-suppress-cdrs | Indicates whether suppression of CDRs is enabled or not when a dead server is detected. |
| Duplicate-hold-time minutes | Configured time in minutes to hold duplicate CDRs. |
| Redirection allowed | Indicates whether redirection is allowed or not. |
| Source-port-validation | Indicates whether source port validation is enabled or not. |
| Charging-agent address | Indicates the IP address of configured charging agent. |
| Charging-agent port | Indicates the port number of configured charging agent. |

| Field | Description |
|----------------------------|--|
| Suppress zero-volume CDRs | Indicates if the suppression of zero byte data count CDRs is enabled or not. |
| Max CDR size | Indicates the maximum CDR size allowed in bytes. |
| Max CDRs in msg | Indicates the maximum CDRs allowed in a message. |
| Max CDRs wait-time | Indicates the maximum wait/live time allowed for CDRs. |
| Dictionary | Indicates the applicable GTPP dictionary for CDR encoding. |
| Data-req start seq-num | Indicates the starting sequence number of data request message. |
| start-file-seq-num | Indicates the starting file sequence number during chassis load/reload. It will be active only for recovery failure case. |
| recover-file-seq-num | Indicates whether recovery of file seq num is needed during chassis reload. |
| Storage Server | This group indicates the storage server information if CDR storage mode is remote. This counter is applicable for the ASR 5000 only. |
| Mode | Indicates the mode of the CDR storage. Possible modes are: <ul style="list-style-type: none"> • Local: CDRs stored on local HDD on SMC card. • Remote: CDRs stored on remote GSS server. This counter is applicable for the ASR 5000 only. |
| Storage-server address | Indicates the configured GTPP storage server IP address. |
| Storage-server port | Indicates the port number of configured GTPP storage server. |
| Storage-server timeout | Indicates the timeout in seconds configured for GTPP storage server. |
| Storage-server max-retries | Indicates the maximum retries configured for the GSS messages. |
| Local Storage | This group indicates the storage server information, if CDR storage mode is local. This counter group is applicable for the ASR 5000 only. |
| Last-MS-Timezone | Indicates the "Last MS-Timezone" in the CDR field. |
| last-uli | Indicates the "Last ULI" in the CDR field. |
| AAAmgr Wait Time | Indicates the time in seconds that AAAmgr has to wait trying to accumulate 255 CDRs. |
| File Transfer Mode | Indicates whether Push method is provisioned to send local CDR files to a remote host. |

| Field | Description |
|--------------------------------------|---|
| Push via Local Context | Specifies whether local context was used to reach remote server with Push method. |
| File rotation volume-limit | Indicates the volume of CDR file in MB after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only. |
| File rotation CDR-count | Indicates the number of CDRs to include in a CDR file after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only. |
| File rotation time-interval | Indicates the time duration in seconds after after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only. |
| Force File rotation by time-interval | Indicates whether force file rotation is enabled or not. If this is enabled it forces the system for file-rotation at specified interval even if there are no CDRs generated. |
| File compression | Indicates the whether file compression is configured or not on CDR files. This counter group is applicable for the ASR 5000 only. |
| File format | Indicates the format name of file to store CDRs in specified format in CDR file. This counter group is applicable for the ASR 5000 only. |
| Purge-processed-files | Indicates the configuration of purge interval duration of processed files. This is an optional setting and can be configured with purge-interval <i>purge_dur</i> keyword with gtp storage-server local file purge-processed-files command in GTPP Group Configuration Mode. |
| Attributes | |
| APN present | Indicates whether or not the "APN" attribute is present in the CDR. |
| PDP type present | Indicates whether or not the "PDP Type" attribute is present in the CDR. |
| PDP address present | Indicates whether or not the optional field "PDP Address" is present in the CDR. |
| Dynamic flag present | Indicates whether or not the "Dynamic Flag" attribute is present in the CDR. |
| Diagnostics present | Indicates whether or not the "Diagnostics" attribute is present in the CDR. |

| Field | Description |
|--|--|
| Node ID present | Indicates whether or not the "Node ID" attribute is present in the CDR. |
| Charging-Char sel mode present | Indicates whether or not the "Charging Characteristic Selection Mode" attribute is present. |
| MSISDN present | Indicates whether or not the MSISDN attribute is present. |
| IMEI present | Indicates whether or not the IMEI attribute is present. |
| RAT present | Indicates whether or not the RAT attribute is present. |
| MS-Timezone present | Indicates whether or not the "MS-Timezone" attribute is present in the CDR. |
| User Location Information present | Indicates whether or not the "User Location Information" attribute is present in the CDR. |
| TWAN User Location Information present | Indicates whether or not the "TWAN User Location Information" attribute is present in the CDR. |
| List of service Data present | Indicates whether or not the optional field "List of Service Data" is present in the CDR. |
| Served MNAI present | Indicates whether or not the optional field "Served MNAI" is present in the CDR. |
| PGW PLMN-ID present | Indicates whether or not the optional field "PGW PLMN-ID" is present in the CDR. |
| Start-Time present | Indicates whether or not the optional field "Start-Time" is present in the CDR. |
| Stop-Time present | Indicates whether or not the optional field "Stop-Time" is present in the CDR. |
| PDN connection ID present | Indicates whether or not the optional field "PDN Connection ID" is present in the CDR. |
| Served PDP PDN address extension present | Indicates whether or not the optional field "Served-pdp-pdn-address-extension" is present in the CDR. |
| SGSN-Change present | Indicates whether or not the optional field "SGSN Change" is present in the CDR. |
| Duration in milliseconds | Indicates the configured duration in milliseconds. |
| PLMN-id present | Indicates whether or not the public land mobile network identifier attribute is present in the CDR. |
| PLMN-id unknown-use | Indicates whether a public land mobile network identifier which is of unknown use is present in the CDR. |

| Field | Description |
|--------------------------------------|---|
| Local-rec-seq-num present | Indicates whether or not the local record sequence number attribute is present. |
| Node-id suffix | Indicates whether or not the server node id attribute is present in the CDR. |
| APN-AMBR | Indicates whether or not the optional field "apn-ambr" is present in the CDR. |
| Furnish-charging-information present | Indicates whether or not the optional field "PSFurnishChargingInformation" is present in the CDR. |
| Cell-plmn-id | Indicates whether cell public land mobile network identifier attribute is present or not. |
| Camel-Info | Indicates whether or not the "CAMEL" specific fields are present in the S-CDR, M-CDR, S-SMO-CDR and S-SMT-CDR. |
| Sms | Indicates the SMS attribute information. |
| Recording entity | Indicates whether or not the SMS recording entity is present in the attribute. |
| Service centre | Indicates whether or not the SMS service center information is present in the attribute. |
| Destination number | Indicates whether the destination number for SMS is present in the attribute. |
| Record extensions: | Indicates the information for record extensions. |
| Rat | Indicates whether radio access type information is present in record extension attributes or not. |
| qos max-length | Displays the QoS max-length configured value. If this field is not configured, "None" will be displayed. |
| Packet count present | Indicates if including packet count is enabled in G-CDR. |
| Triggers | |
| Volume-limit | Indicates the status of configured volume limit trigger. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Time-limit | Indicates the status of configured time limit trigger. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |

| Field | Description |
|---------------------------|--|
| Tariff-time-change | Indicates the status of configured trigger for tariff time change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Serving-Node-change-limit | Indicates the status of configured trigger for SGSN change limit. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Intra-SGSN-group-change | Indicates the status of configured trigger for intra-SGSN group change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Inter-plmn-sgsn-change | Indicates the status of configured trigger for SGSN change between PLMN. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Egcdr-max-losdv-limit | Indicates the status of configured trigger for maximum list of service data volume (LoSDV) limit for eG-CDRs. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Qos-change | Indicates the status of configured trigger for QoS change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| RAT-change | Indicates the status of configured trigger for RAT change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| on RAT-change generate | Indicates whether to generate CDRs for RAT change. |

| Field | Description |
|-------------------------|--|
| ULI-Change | Indicates the status of configured trigger for ULI change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| MS-timezone-change | Indicates the status of configured trigger for change in time zone of MS. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Routing-area-update | Indicates the status of configured trigger for update in routing area. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Presv-mode-state-change | Enables/disables preservation-mode-change trigger. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Direct-tunnel | Indicates the status of configured trigger for direct tunnel. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Cell-update | Enables cell-update trigger for S-CDR (if the dictionary specified in the gtp group supports the cell update. This trigger is available only for 2G. Currently "custom18" supports cell update trigger. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| PLMN-id-change | Enables plmn-id-change trigger for SGSN CDRs provided, if the dictionary specified in the gtp group supports the plmn-id-change. Possible status are: <ul style="list-style-type: none"> • Enabled • Disabled |
| Mbms config | Specifies the MBMS configuration information. |

| Field | Description |
|---------------------------|---|
| Buckets | Indicates the total number of data buckets configured for MBMS service. |
| Interval | Indicates the interval duration configured for MBMS service. |
| Volume | Indicates the data volume configured for MBMS service. |
| Tarif: | Specifies the tariff configuration for MBMS service. |
| Time1 | Indicates the tariff configuration for time slot 1 in MBMS service. |
| Time2 | Indicates the tariff configuration for time slot 2 in MBMS service. |
| Time3 | Indicates the tariff configuration for time slot 3 in MBMS service. |
| Time4 | Indicates the tariff configuration for time slot 4 in MBMS service. |
| EGCDR | Specifies the configuration for eG-CDRs. |
| Lotdv-max-containers | Indicates the maximum number of containers configured for list of traffic data volume (LoTDV) for eG-CDRs. |
| Losdv-max-containers | Indicates the maximum number of containers configured for list of service data volume (LoSDV) for eG-CDRs. |
| Service-idle-timeout | Indicates the idle timeout duration configured in seconds for service for eG-CDRs. |
| Rulebase-max-length | Indicates the maximum character length of charging rulebase name in LOSDV, if configured to a non-zero value. |
| Service-interval | Indicates whether interval duration configured in seconds to retry for eG-CDRs. |
| Service-uplink | Indicates the total bytes uplinked for service in eG-CDRs. |
| Service-downlink | Indicates the total bytes downlinked for service in eG-CDRs. |
| Service-total | Indicates the total bytes in traffic (uplinked+ downlinked) for service in eG-CDRs. |
| Closing-cause-unique | Indicates whether any unique closing cause set for eG-CDR closing. |
| Include-all-losdvs | Indicates whether eG-CDR configured to include all LoSDV. |
| Delete-service-thresholds | Indicates the configured threshold in eG-CDR to delete the service. |

show gtp statistics

Table 285: show gtp statistics Command Output Descriptions

| Field | Description |
|------------------------------------|--|
| Accumulated Statistics | |
| Start Collection Req | Total number of Start Collection requests. |
| Normal Release Req | Total number of Normal Release requests. |
| Management Intervention Req | Total number of Management Intervention requests. |
| Abnormal Release Req | Total number of Abnormal Release requests. |
| Time Limit Req | Total number of Time Limit requests. |
| Volume Limit Req | Total number of Volume Limit requests. |
| SGSN Change Req | Total number of SGSN Change requests. |
| Maximum Change Condition Req | Total number of Maximum Change Condition requests. |
| RAT Change Req | Total number of RAT Change requests. |
| MS Time Zone Change Req | Total number of MS Time Zone Change requests. |
| List of Down Stream Node Change | List of down-stream node change. |
| Intra SGSN Intersystem Change Req | Total number of Intra SGSN Intersystem Change requests. |
| FOCS/ODB ACL Violation Req | Indicates the total number of FOCS enabled sessions closed due to ACL rule violation received for FOCS and/or ODB. |
| Inactivity Timeout (FOCS enabled): | Indicates the total number of FOCS enabled sessions closed due to inactivity timeout. |
| SGW Relocation | Indicates the total number of S-GW to SGSN relocations. |
| Total G-CDR transmission | Total number of G-CDR transmissions. |
| Total eG-CDR transmission | This indicates the total number of eG-CDRs transmitted to the mediation system. |
| Total PGW-CDR transmission | This indicates the total number of PGW-CDRs transmitted to the mediation system. |
| Total S-CDR transmission | Total number of S-CDR transmissions. |
| Total M-CDR transmission | Total number of M-CDR transmissions. |
| Total S-SMO-CDR transmission | Total number of S-SMO-CDR transmissions. |

| Field | Description |
|---------------------------------|--|
| Total S-SMT-CDR transmission | Total number of S-SMT-CDR transmissions. |
| Total LCS-MT-CDR transmission | Total number of LCS-MT-CDR transmissions. |
| Total LCS-MO-CDR transmission | Total number of LCS-MO-CDR transmissions. |
| Total G-MB-CDR transmission | Total number of G-MB-CDR transmissions. |
| Total SGW-CDR transmission | Total number of SGW-CDR transmissions. |
| Total ePDG-CDR transmission | Total number of ePDG-CDR transmissions. |
| Total WLAN-CDR transmission | Total number of WLAN-CDR transmissions. |
| Total G-CDR retransmission | Total number of G-CDR retransmissions. |
| Total eG-CDR retransmission | This indicates the total number of eG-CDRs re-transmitted to the mediation system. This will happen whenever SGSN/GGSN is not getting the response from the mediation server in a stipulated period of time. |
| Total PGW-CDR retransmission | This indicates the total number of PGW-CDRs re-transmitted to the mediation system. This will happen whenever PGW/SGW is not getting the response from the mediation server in a stipulated period of time. |
| Total S-CDR retransmission | Total number of S-CDR retransmissions. |
| Total M-CDR retransmission | Total number of M-CDR retransmissions. |
| Total S-SMO-CDR retransmission | Total number of S-SMO-CDR retransmissions. |
| Total S-SMT-CDR retransmission | Total number of S-SMT-CDR retransmissions. |
| Total LCS-MT-CDR retransmission | Total number of LCS-MT-CDR retransmissions. |
| Total LCS-MO-CDR retransmission | Total number of LCS-MO-CDR retransmissions. |
| Total SGW-CDR retransmission | Total number of SGW-CDR retransmissions. |
| Total ePDG-CDR retransmission | Total number of ePDG-CDR retransmissions. |
| Total WLAN-CDR retransmission | Total number of WLAN-CDR retransmissions. |
| Total G-MB-CDR retransmission | Total number of G-MB-CDR retransmissions. |
| Total G-CDR accepted | Total number of G-CDR accepted. |
| Total eG-CDR accepted | This indicates the total number of eG-CDRs successfully sent to the mediation server for which the SGSN/GGSN received the ACCEPT response. |

| Field | Description |
|--|---|
| Total PGW-CDR accepted | This indicates the total number of PGW-CDRs successfully sent to the mediation server for which the PGW/SGW received the ACCEPT response. |
| Total S-CDR accepted | Total number of S-CDR accepted. |
| Total M-CDR accepted | Total number of M-CDR accepted. |
| Total S-SMO-CDR accepted | Total number of S-SMO-CDR accepted. |
| Total S-SMT-CDR accepted | Total number of S-SMT-CDR accepted. |
| Total LCS-MT-CDR accepted | Total number of LCS-MT-CDR accepted. |
| Total LCS-MO-CDR accepted | Total number of LCS-MO-CDR accepted. |
| Total G-MB-CDR accepted | Total number of G-MB-CDR accepted. |
| Total SGW-CDR accepted | Total number of SGW-CDR accepted. |
| Total ePDG-CDR accepted | Total number of ePDG-CDR accepted. |
| Total WLAN-CDR accepted | Total number of WLAN-CDR accepted. |
| Total G-CDR transmission failures | Total number of G-CDR transmission failures. |
| Total eG-CDR transmission failures | This indicates the total number of eG-CDRs successfully sent to the mediation server for which the SGSN/GGSN received the FAIL response. |
| Total PGW-CDR retransmission | This indicates the total number of PGW-CDRs successfully sent to the mediation server for which the PGW/SGW received the FAIL response. |
| Total S-CDR transmission failures | Total number of S-CDR transmission failures. |
| Total M-CDR transmission failures | Total number of M-CDR transmission failures. |
| Total S-SMO-CDR transmission failures | Total number of S-SMO-CDR transmission failures. |
| Total S-SMT-CDR transmission failures | Total number of S-SMT-CDR transmission failures. |
| Total LCS-MT-CDR transmission failures | Total number of LCS-MT-CDR transmission failures. |
| Total LCS-MO-CDR transmission failures | Total number of LCS-MO-CDR transmission failures. |
| Total G-MB-CDR transmission failures | Total number of G-MB-CDR transmission failures. |
| Total SGW-CDR transmission failures | Total number of SGW-CDR transmission failures. |
| Total ePDG-CDR transmission failures | Total number of ePDG-CDR transmission failures. |
| Total WLAN-CDR transmission failures | Total number of WLAN-CDR transmissions failures. |

| Field | Description |
|---|--|
| G-CDR transmission failure percent | G-CDR transmission failure percentage. |
| eG-CDR transmission failures percent | Total percentage of transmitted eG-CDRs failed on peer node. |
| PGW-CDR transmission failures percent | Total percentage of transmitted PGW-CDRs failed on peer node. |
| S-CDR transmission failure percent | S-CDR transmission failure percentage. |
| M-CDR transmission failure percent | M-CDR transmission failure percentage. |
| S-SMO-CDR transmission failure percent | S-SMO-CDR transmission failure percentage. |
| S-SMT-CDR transmission failure percent | S-SMT-CDR transmission failure percentage. |
| LCS-MT-CDR transmission failure percent | LCS-MT-CDR transmission failure percentage. |
| LCS-MO-CDR transmission failure percent | LCS-MO-CDR transmission failure percentage. |
| G-MB-CDR transmission failure percent | G-MB-CDR transmission failure percentage. |
| SGW-CDR transmission failure percent | SGW-CDR transmission failure percentage. |
| ePDG-CDR transmission failure percent | ePDG-CDR transmission failure percentage. |
| WLAN-CDR transmission failure percent | WLAN-CDR transmission failure percentage. |
| CDRs purged by dead-server suppress-cdrs | Total number of CDRs purged in all GTPP server groups configured on system when gtp dead-server suppress-cdrs command is enabled. |
| Charging Characteristics Statistics | |
| Hot | The charging characteristic setting. |
| Normal | The charging characteristic setting. |
| Prepaid | The charging characteristic setting. |
| Flat | The charging characteristic setting. |
| Unknown | The charging characteristic setting. |
| CGF Specific Statistics | |
| Data Record Transfer Requests Sent | |
| <p>When the primary CGF goes down, all outstanding requests with the primary CGF are marked as Possibly Duplicate and sent to the secondary CGF. This is because of the uncertainty as to whether the primary CGF processed the requests or not. So the seq-numbers (for primary CGF) for these requests are stored.</p> <p>When the primary CGF comes back again, an Empty DRT with the stored seq-numbers is sent to the primary CGF. The CGF can reply either REQ_ALREADY_FULFILLED (primary CGF processed the request. Cancel request is sent to the secondary CGF to delete the request) or REQUEST_ACCEPTED (primary CGF has not got this request before. Release request is sent to secondary to store the request).</p> | |

| Field | Description |
|--|--|
| Send | Total number of DRT requests sent. |
| Possibly Duplicate | Total number of possibly duplicate DRT requests sent. |
| Cancel | Total number of cancel DRT requests sent. |
| Release | Total number of release DRT requests sent. |
| Empty | Total number of empty DRT requests sent. |
| Data Record Transfer Requests Retried | |
| Send | Total number of DRT request retried. |
| Possibly Duplicate | Total number of DRT requests marked possibly duplicate retried. |
| Cancel | Total number of cancel DRT requests retried. |
| Release | Total number of release DRT requests retried. |
| Empty | Total number of empty DRT requests retried. |
| Data Record Transfer Requests Success | |
| Send | Total number of DRT requests sent successfully. |
| Possibly Duplicate | Total number of DRT requests marked possibly duplicate sent successfully. |
| Cancel | Total number of canceled DRT requests sent successfully. |
| Release | Total number of release DRT requests sent successfully. |
| Empty | Total number of empty DRT requests sent successfully. |
| Data Record Transfer Response Cause | |
| Accepted | Total number of DRT response messages with cause as "accepted". |
| Not Fulfilled | Total number of DRT response messages with cause as "not fulfilled". |
| Already Fulfilled | Total number of DRT response messages with cause as "already fulfilled". |
| Dup Already Fulfilled | Total number of DRT response messages with cause as "duplicate already fulfilled". |
| Invalid Msg Format | Total number of DRT response messages with cause as "invalid message format". |
| Mandatory IE Missing | Total number of DRT response messages with cause as "mandatory IE missing". |

| Field | Description |
|-------------------------------------|---|
| Service not supported | Total number of DRT response messages with cause as 'service not supported'. |
| Version not supported | Total number of DRT response messages with cause as "version not supported". |
| Mandatory IE incorrect | Total number of DRT response messages with cause as "mandatory IE incorrect". |
| Optional IE incorrect | Total number of DRT response messages with cause as "optional IE incorrect". |
| No Resources | Total number of DRT response messages with cause as "no resources". |
| System Failure | Total number of DRT response messages with cause as "system failure". |
| CDR Decode Error | Total number of DRT response messages with cause as "CDR decode error". |
| Seq No incorrect | Total number of DRT response messages with cause as "sequence number incorrect". |
| Unknown Cause | Total number of DRT response messages with unknown cause. |
| GTPP Echo Messages | |
| Echo Req Sent | Total number of echo request messages sent. |
| Echo Req Rcvd | Total number of echo request messages received. |
| Echo Rsp Rcvd | Total number of echo response messages received. |
| Echo Rsp Sent | Total number of echo response messages sent. |
| Redirection Req/Rsp Messages | |
| Redirection Req Rcvd | Total number of redirection request messages received. |
| Redirection Rsp Sent | Total number of redirection response messages sent. |
| Redirection Request Cause | |
| Trans Buffer full | Total number of redirection requests with cause code as "transmit buffers are full". |
| Recv Buffer Full | Total number of redirection requests with cause code as "receive buffers are full". |
| Other Node Down | Total number of redirection requests with cause code as "other node is about to go down". |

| Field | Description |
|------------------------------------|--|
| Self Node down | Total number of redirection requests with cause code as "this node is about to go down". |
| System Failure | Total number of redirection requests with cause code as "system failure". |
| Redirection Response Cause | |
| Accepted | Total number of redirection responses with cause code as "accepted". |
| Service Not Supported | Total number of redirection responses with cause code as "service not supported". |
| System Failure | Total number of redirection responses with cause code as "system failure". |
| Mandatory IE Incorrect | Total number of redirection responses with cause code as "mandatory IE incorrect". |
| Mandatory IE Missing | Total number of redirection responses with cause code as "mandatory IE missing". |
| Optional IE incorrect | Total number of redirection responses with cause code as "optional IE incorrect". |
| Invalid Msg Format | Total number of redirection responses with cause code as "invalid message format". |
| Version Not Supported | Total number of redirection responses with cause code as "version not supported". |
| No Resources | Total number of redirection responses with cause code as "no resources". |
| Node Alive Req/Rsp Messages | |
| Node Alive Req Rcvd | Total number of node alive request messages received. |
| Node Alive Req Sent | Total number of node alive request messages sent. |
| Node Alive Rsp Sent | Total number of node alive response messages sent. |
| Node Alive Rsp Rcvd | Total number of node alive response messages received. |
| Invalid messages received | |
| Invalid Sequence Number | Total number of messages with invalid sequence number received. |
| Unknown CGF | Total number of messages received with unknown CGF. |
| Unknown Msg type | Total number of messages received with unknown message type. |
| Round Trip Time | |

| Field | Description |
|-----------------------------|---|
| Last DRT Round Trip Time | Time taken for the last DRT round trip. |
| Average DRT Round Trip Time | Average time taken for DRT round trip. |

show gtp statistics cgf-address

Table 286: show gtp statistics cgf-address Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Accumulated Statistics | |
| Start Collection Req | The total number of accounting start requests generated. NOTE: These requests are not sent to CGF. The requests are just a system record that accounting for a session has started and in future releases may be required to be sent to CGF. |
| Normal Release Req | The total number of requests generated because of normal PDP context deletion (i.e. PDP context deletion initiated by SGSN or GGSN). |
| Management Intervention Req | The total number of requests generated because of management intervention (request due to O&M reasons, e.g. clear subscribers all) |
| Abnormal Release Req | The total number of requests generated because of abnormal termination of session (e.g. Session Manager failure results in abnormal release of PDP contexts active for that Session Manager. |
| Time Limit Req | The number of interim requests generated because of the time limit being reached. The time limit is configured using the cc profile command in the GGSN service configuration mode. |
| Volume Limit Req | The number of interim requests generated because of volume limit being reached. The volume limit is configured using cc profile command in the GGSN service configuration mode. |
| SGSN Change Req | The number of interim requests generated because of the number of inter SGSN switch-overs reaching the configured limit or because of an SGSN switchover resulting in a new RAI (Routing Area Identity). The maximum number of SGSN changes is configured using the cc profile command in the GGSN service configuration mode. |
| Maximum Change Condition Req | The number of interim requests generated because of the "List of traffic Volume" Containers reaching the configured limit. This value is configured using the cc profile command in the GGSN service configuration mode. |

| Field | Description |
|---|---|
| Total G-CDR transmission | The total number of GTPP Requests sent to the CGF. NOTE: This counter does not include requests re-transmitted to the CGF. |
| Total G-CDR retransmission | The total number of GTPP Requests retransmitted to the CGF. NOTE: This counter does not include the requests that were originally transmitted to the CGF. |
| Total G-CDR accepted | The total number of G-CDRs accepted by the CGF. |
| Total G-CDR transmission failures | The total number of GTPP Requests that were not responded to by CGFs. NOTE: This statistic is not displayed if the cgf_address optional keyword is used. |
| G-CDR transmission failure percent | The failure percentage of DRT requests. This is calculated as (Total G-CDR Trans failures/(Total GCDR Trans Failures + Total G-CDR accepted) *100). |
| Total LCS-MT-CDR transmission | The total number of GTPP Requests sent to the CGF. NOTE: This counter does not include requests re-transmitted to the CGF. |
| Total LCS-MT-CDR retransmission | The total number of GTPP Requests retransmitted to the CGF. NOTE: This counter does not include the requests that were originally transmitted to the CGF. |
| Total LCS-MT-CDR accepted | The total number of LCS-MT-CDRs accepted by the CGF. |
| Total LCS-MT-CDR transmission failures | The total number of GTPP Requests that were not responded to by CGFs. NOTE: This statistic is not displayed if the cgf_address optional keyword is used. |
| LCS-MT-CDR transmission failure percent | The failure percentage of DRT requests. This is calculated as (Total LCS-MT-CDR Trans failures/(Total LCS-MT-CDR Trans Failures + Total LCS-MT-CDR accepted) *100). |
| Total LCS-MO-CDR transmission | The total number of GTPP Requests sent to the CGF. NOTE: This counter does not include requests re-transmitted to the CGF. |
| Total LCS-MO-CDR retransmission | The total number of GTPP Requests retransmitted to the CGF. NOTE: This counter does not include the requests that were originally transmitted to the CGF. |
| Total LCS-MO-CDR accepted | The total number of LCS-MO-CDRs accepted by the CGF. |

| Field | Description |
|---|---|
| Total LCS-MO-CDR transmission failures | The total number of GTPP Requests that were not responded to by CGFs. NOTE: This statistic is not displayed if the cgf_address optional keyword is used. |
| LCS-MO-CDR transmission failure percent | The failure percentage of DRT requests. This is calculated as (Total LCS-MO-CDR Trans failures/(Total LCS-MO-CDR Trans Failures + Total LCS-MO-CDR accepted) * 100). |
| Charging Characteristics Statistics | |
| Hot | The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "1", representing "hot" billing. |
| Normal | The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "8", representing "normal" billing. |
| Prepaid | The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "4", representing "prepaid billing. |
| Flat | The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "2", representing "flat-rate" billing. |
| Unknown | The number of times that PDP Context Requests were processed with an unknown charging characteristic profile index value. |
| CGF Specific Statistics | |
| Data Record Transfer Requests Sent | |
| Send | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". NOTE: This counter counts "Send Data Record Packet" with length more than 0. |
| Possibly Duplicate | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet". |
| Cancel | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet". |
| Release | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet". |

| Field | Description |
|---------------------------------------|--|
| Empty | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". NOTE: This counter counts "Send Data Record Packet" with length equal to 0. |
| Data Record Transfer Requests Retried | |
| Send | The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". NOTE: This counter counts "Send Data Record Packet" with length more than 0. |
| Possibly Duplicate | The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet". |
| Cancel | The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet". |
| Release | The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet". |
| Empty | The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". NOTE: This counter counts "Send Data Record Packet" with length equal to 0. |
| Data Record Transfer Requests Success | |
| Send | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet" for which a response from the CGF was received. NOTE: This counter counts "Send Data Record Packet" with length more than 0. |
| Possibly Duplicate | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet" for which a response from the CGF was received. |
| Cancel | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet" for which a response from the CGF was received. |
| Release | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet" for which a response from the CGF was received. |

| Field | Description |
|-------------------------------------|---|
| Empty | The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet" for which a response from the CGF was received. NOTE: This counter counts "Send Data Record Packet" with length equal to 0. |
| Data Record Transfer Response Cause | |
| Accepted | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 128 (80H, Request accepted). |
| Not Fulfilled | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 255 (FFH, Request not fulfilled). |
| Already Fulfilled | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 253 (FDH, Request already fulfilled). |
| Dup Already Fulfilled | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 252 (FCH, Request related to possibly duplicated packets already fulfilled). |
| Invalid Msg Format | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 193 (C1H, Invalid message format). |
| Mandatory IE Missing | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 202 (CAH, Mandatory IE missing). |
| Service not supported | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 200 (C8H, Service not supported). |
| Version not supported | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 198 (C6, Version not supported). |
| Mandatory IE incorrect | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 201 (C9H, Mandatory IE incorrect). |
| Optional IE incorrect | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 203 (CBH, Optional IE incorrect). |
| No Resources | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 199 (C7H, No resources available). |

| Field | Description |
|------------------------------|---|
| System Failure | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 204 (CCH, System failure). |
| CDR Decode Error | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 177. The cause value "CDR decoding error" is primarily intended to inform the CDR generating node that the receiving node can not decode the CDR. |
| Seq No incorrect | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 254. |
| Unknown Cause | The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code which is other than mentioned above. |
| GTPP Echo Messages | |
| Echo Req Sent | The total number of Echo Request messages transmitted to the CGF. |
| Echo Req Rcvd | The total number of Echo Request messages received from the CGF. |
| Echo Rsp Rcvd | The total number of Echo Response messages received from the CGF. |
| Echo Rsp Sent | The total number of Echo Response messages transmitted to the CGF. |
| Redirection Req/Rsp Messages | |
| Redirection Req Rcvd | The total number of Redirection Request messages received from the CGF. |
| Redirection Rsp Sent | The total number of Redirection Response messages transmitted to the CGF. |
| Redirection Request Cause | |
| Trans Buffer full | The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 60 (3CH, The transmit buffers are becoming full). |
| Recv Buffer Full | The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 61 (3DH, The receive buffers are becoming full). |
| Other Node Down | The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 62 (3EH, Another node is about to go down). |

| Field | Description |
|-----------------------------|--|
| Self Node down | The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 63 (3FH, This node is about to go down). |
| System Failure | The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 59 (3BH, System failure). |
| Redirection Response Cause | |
| Accepted | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 128 (80H, Request accepted). |
| Service Not Supported | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 200 (C8H, Service not supported). |
| System Failure | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 204 (CCH, System failure). |
| Mandatory IE Incorrect | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 201 (C9H, Mandatory IE incorrect). |
| Mandatory IE Missing | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 202 (CAH, Mandatory IE missing). |
| Optional IE incorrect | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 203 (CBH, Optional IE incorrect). |
| Invalid Msg Format | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 193 (C1H, Invalid message format). |
| Version Not Supported | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 198 (C6H, Version not supported). |
| No Resources | The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 199 (C7H, No resources available). |
| Node Alive Req/Rsp Messages | |
| Node Alive Req Rcvd | The total number of Node Alive Request messages received. |
| Node Alive Rsp Sent | The total number of Node Alive Response messages transmitted. |
| Node Alive Req Sent | The total number of Node Alive Request messages sent. |

| Field | Description |
|-----------------------------|--|
| Node Alive Rsp Rcvd | The total number of Node Alive Response messages received. |
| Invalid messages received | |
| Invalid Sequence Number | The total number of requests received from a pre-configured CGF, with sequence number that is not in the system's buffers. |
| Round Trip Time | This section shows average latency on Ga/Gz interface per CGF. |
| Last DRT Round Trip Time | Total time taken in milliseconds for round trip of previous data record transfer message. |
| Average DRT Round Trip Time | Average time taken in milliseconds for round trip of all data record transfer messages. |

show gtp storage-server statistics

Table 287: show gtp storage-server statistics Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| Store Requests (GTPP Requests) | |
| Sent | The total number of GTPP Requests Messages sent by AAAProxy to GSS for storage. Each GTPP Request corresponds to one Store request to GSS. Therefore, each store request may contain one or more GCDR. |
| Retried | The total number of GTPP Requests Messages re-sent by AAAProxy to GSS for storage. |
| Success | The total number of GTPP Requests Messages successfully sent by AAAProxy to GSS for storage. |
| Failed | The total number of GTPP Requests Messages that failed to be sent by AAAProxy to GSS for storage. |
| Store Requests (GCDRs) | |
| Sent | The total number of G-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of G-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of G-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of G-CDRs in the GTPP Requests that failed to be sent for "store". |

| Field | Description |
|-----------------------------|---|
| Store Requests (MCDRs) | |
| Sent | The total number of M-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of M-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of M-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of M-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (SCDRs) | |
| Sent | The total number of S-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of S-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of S-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of S-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (S-SMO-CDRs) | |
| Sent | The total number of S-SMO-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of S-SMO-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of S-SMO-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of S-SMO-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (S-SMT-CDRs) | |
| Sent | The total number of S-SMT-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of S-SMT-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of S-SMT-CDRs in the GTPP Requests successfully sent for "store". |

| Field | Description |
|------------------------------|--|
| Failed | The total number of S-SMT-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (LCS-MT-CDRs) | |
| Sent | The total number of LCS-MT-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of LCS-MT-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of LCS-MT-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of LCS-MT-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (LCS-MO-CDRs) | |
| Sent | The total number of LCS-MO-CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of LCS-MO-CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of LCS-MO-CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of LCS-MO-CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests(GMBMSCDRs) | |
| Sent | The total number of GMBMS CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of GMBMS CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of GMBMS CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of GMBMS CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests(SMBMSCDRs) | |
| Sent | The total number of SMBMS CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of SMBMS CDRs in the GTPP Requests re-sent for "store". |

| Field | Description |
|---------------------------|---|
| Success | The total number of SMBMS CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of SMBMS CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (SGWCDRs) | |
| Sent | The total number of S-GW CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of S-GW CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of S-GW CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of S-GW CDRs in the GTPP Requests that failed to be sent for "store". |
| Store Requests (WLANCDRs) | |
| Sent | The total number of WLAN CDRs in the GTPP Requests sent for "store". |
| Retried | The total number of WLAN CDRs in the GTPP Requests re-sent for "store". |
| Success | The total number of WLAN CDRs in the GTPP Requests successfully sent for "store". |
| Failed | The total number of WLAN CDRs in the GTPP Requests that failed to be sent for "store". |
| AAAProxy Recover Requests | |
| Sent | The total number of AAA Proxy Recover Requests sent by the AAA Proxy to the GSS. These requests are sent when the AAA Proxy is restarted after an outage. |
| Retried | The total number of AAA Proxy Recover Requests re-sent by the AAA Proxy to the GSS. |
| Success | The total number of AAA Proxy Recover Requests successfully sent by the AAA Proxy to the GSS. |
| Failed | The total number of AAA Proxy Recover Requests that failed to be sent by the AAA Proxy to the GSS. |
| Get Next Requests | |

| Field | Description |
|-------------------------|--|
| Sent | The total number of Get Next requests sent by the AAA Proxy to the GSS. The AAA Proxy maintains a limited buffer. When the buffer gets filled because of a delay in the CGF response, the AAA proxy starts sending the request to the GSS. To get these requests from the GSS, the AAA Proxy sends Get Next Requests to the GSS. |
| Retried | The total number of Get Next requests re-sent by the AAA Proxy to the GSS. |
| Success | The total number of Get Next requests successfully sent by the AAA Proxy to the GSS. |
| Failed | The total number of Get Next requests that failed to be sent by the AAA Proxy to the GSS. |
| Update CGF Requests | |
| Sent | The total number of requests sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs (i.e. from up to down or vice versa). |
| Retried | The total number of requests re-sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs |
| Success | The total number of requests successfully sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs |
| Failed | The total number of requests that failed to be sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs |
| AAAMgr Recover Requests | |
| Sent | The total number of AAAMGR Recovery Requests sent by the system to the GSS. These requests are sent when a AAA Mgr software task is restarted after an outage. |
| Retried | The total number of AAAMGR Recovery Requests re-sent by the system to the GSS. |
| Success | The total number of AAAMGR Recovery Requests successfully sent by the system to the GSS. |
| Failed | The total number of AAAMGR Recovery Requests that failed to be sent by the system to the GSS. |
| Clear DataBase Requests | |
| Sent | The total number of Clear Database Requests sent by the AAA Proxy to the GSS. These requests are sent after the AAA Proxy discovers that the GSS has come up again after a period of dormancy (i.e. the GSS moves from "down" to "up" state) so as to bring the GSS in sync with the state that the AAA Proxy is in. |

| Field | Description |
|---------------------------|--|
| Retried | The total number of Clear Database Requests re-sent by the AAA Proxy to the GSS. |
| Success | The total number of Clear Database Requests successfully sent by the AAA Proxy to the GSS. |
| Failed | The total number of Clear Database Requests that failed to be sent by the AAA Proxy to the GSS. |
| GCDR Purge Requests | |
| Received | The total number of G-CDR Purge Request messages received by the storage server. This request is sent by the GSS notifying the AAA Proxy of the purging of GTPP Requests due to buffer overflow. |
| Responded | The total number of responses sent from the AAA Proxy to the GSS in response to "purge Requests". |
| Generated File Requests | |
| Received | The total number of Generate File Request messages received by the storage server. This request is sent by the GSS notifying the AAA Proxy of the generation of unAcked files. The GTPP Requests purged by the GSS as a result of buffer overflow are moved to a file. This request indicates the completion of the moving of purged G-CDRs to the file. |
| Responded | The total number of responses sent by the AAA Proxy to the GSS for the "Generated File Requests" received. |
| Notification Received | |
| Outstanding GCDRs | The total number of notification for outstanding G-CDRs. |
| Responded | The total number notifications received and responded for outstanding G-CDRs. |
| Outstanding GCDRs cleared | The total number of notification for cleared outstanding G-CDRs. |
| Responded | The total number notifications received and responded for clearing outstanding G-CDRs. |
| CPU Usage Overlimit | The total number of notification received for CPU usage overlimit. |
| Responded | The total number notifications received and responded for CPU usage overlimit. |
| CPU Usage Normal | The total number of notification received for normal usage of CPU. |
| Responded | The total number of notification received and responded for normal usage of CPU. |

| Field | Description |
|------------------------------|---|
| Disk Usage Overlimit | The total number of notification received for disk usage overlimit. |
| Responded | The total number notifications received and responded for disk usage overlimit. |
| Disk Usage Normal | The total number of notification received for disk usage is in normal limit. |
| Responded | The total number notifications received and responded for disk usage in normal limit. |
| Cluster State Change | The total number of notification received for change in Cluster node status. |
| Responded | The total number notifications received and responded for change in Cluster node status. |
| Cluster Switchover | The total number of notification received for Cluster node switchover. |
| Responded | The total number notifications received and responded for Cluster node switchover. |
| Cluster Disk Path Failure | The total number of notification received for failure in Cluster disk path failure. |
| Responded | The total number notifications received and responded for failure in Cluster disk path failure. |
| Cluster Disk Path Normal | The total number of notification received for change in Cluster disk path from failure to normal. |
| Responded | The total number notifications received and responded for change in Cluster disk path from failure to normal. |
| Cluster Interconnect Failure | The total number of notification received for failure of interconnection between Cluster nodes. |
| Responded | The total number notifications received and responded for failure of interconnection between Cluster nodes. |
| Cluster Interconnect Normal | The total number of notification received for change in interconnection between Cluster nodes from failure to normal. |
| Responded | The total number notifications received and responded for change in interconnection between Cluster nodes from failure to normal. |
| Cluster Interface Failure | The total number of notification received for failure of interface of Cluster node. |
| Responded | The total number notifications received and responded for failure of Cluster node interface. |

| Field | Description |
|---------------------------------|---|
| Cluster Interface Normal | The total number of notification received for change in status of Cluster node interface from failure to normal. |
| Responded | The total number notifications received and responded for change in status of Cluster node interface from failure to normal. |
| Cluster Memory Low | The total number of notification received for low memory at Cluster node. |
| Responded | The total number notifications received and responded for low memory at Cluster node. |
| Cluster Memory Normal | The total number of notification received for change in status of low memory to normal memory at Cluster node. |
| Responded | The total number notifications received and responded for change in status of low memory to normal memory at Cluster node. |
| Storage Server Counter Requests | |
| Sent | The total number of times the AAA Proxy sent "Storage Server Counter" requests to the GSS. This request is sent when "show gtp storage-server counter" CLI is executed. |
| Failed | The total number of times that the AAA Proxy failed to be send "Storage Server Counter" requests to the GSS. |
| Success | The total number of times the AAA Proxy successfully sent "Storage Server Counter" requests to the GSS. |
| Storage Server Status Requests | |
| Sent | The total number of times the AAA Proxy sent "Storage Server Status" requests to the GSS. This request is sent when "show gtp storage-server status" CLI is executed. |
| Failed | The total number of times that the AAA Proxy failed to be send "Storage Server Status" requests to the GSS. |
| Success | The total number of times the AAA Proxy successfully sent "Storage Server Status" requests to the GSS. |
| Fetch Requests | |
| Sent | The total number of "Fetch Requests" sent by the AAA Proxy to the GSS. This request is sent to discover the status of a particular GTPP Request (i.e. if it has been successfully stored but not sent to CGF, or if it is successfully stored and sent to CGF, or if it has not been received by GSS at all). |
| Retried | The total number of "Fetch Requests" re-sent by the AAA Proxy to the GSS. |

| Field | Description |
|------------------------|---|
| Success | The total number of "Fetch Requests" successfully sent by the AAA Proxy to the GSS. |
| Failed | The total number of "Fetch Requests" that failed to be sent by the AAA Proxy to the GSS. |
| Echo Requests | |
| Sent | The total number of Echo requests sent by the AAA Proxy to the GSS. |
| Success | The total number of Echo requests successfully sent by the AAA Proxy to the GSS. |
| Commit Requests | |
| Sent | The total number of "commit requests" sent by the AAA Proxy to the GSS. This request is sent as a result of executing the "gtp force-save" Exec mode command. |
| Success | The total number of "commit requests" successfully sent by the AAA Proxy to the GSS. |
| Update Requests | |
| Sent | The total number of requests sent by the AAA Proxy to the GSS to indicate the success of a request from the CGF. |
| Invalid Request | |
| Received | The total number of invalid requests sent by the GSS to the AAA Proxy (i.e. when a GSS is reconfigured, all the requests from the old GSS are marked as invalid). |
| Message Statistics | |
| Total Req Sent | The total number of requests sent to GSS. |
| Total Store Req Sent | The total number of requests sent to GSS to store G-CDRs. |
| Total Rsp Rcvd | The total number of requests responded to GSS. |
| Total Store Req Sent | The total number of requests to store G-CDRs responded. |
| Total Notif Msg Rcvd | The total number of notification messages received. |
| Total Notif Rsp Sent | The total number of notification messages responded. |
| Total Req Sent Failure | The total number of requests failed during sent. |
| Invalid Socket State | The total number of requests failed during sent due to invalid socket state. |

| Field | Description |
|-----------------------------------|---|
| MED/Socket Tx Failure | The total number of requests failed during sent due to Tx failure of mediation or socket. |
| Store Response Time Statistics | Statistical information of response time for STORE messages. |
| Get Next Response Time Statistics | Statistical information of response time of GET NEXT messages. |
| GCDR distribution in DRT Messages | Distribution of G-CDRs in Data Request Transfer (DRT) messages. |

show gtp storage-server counters

Table 288: show gtp storage-server counters Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Archived GTPP Requests | The total number of GTPP Requests archived with the GSS that have been responded to by the CGF. |
| Archived Unack GTPP Requests | The total number of GTPP Requests archived with the GSS that have not yet been responded to by the CGF. |
| Archived GCDRs | The total number of G-CDRs archived in "Acknowledged GTPPRequests". |
| Archived Unack GCDRs | The total number of G-CDRs archived in "Unacknowledged GTPP Requests". |

show gtp storage-server local file counters

Table 289: show gtp storage-server local file counters Command Output Descriptions

| Field | Description |
|---------------------------|---|
| GTPP Req pending write | The total number of pending GTPP requests to write files to the hard disk.. |
| GTPP Req pending response | The total number responses sent to GTPP requests. |
| File related counters | |
| Current file CDR count | The total number of files compressed. |
| Files pending sync | The number of files that were not able to be compressed. |
| Compr files pending sync | The number of files waiting to be synced. |

| Field | Description |
|-------------------------|---------------------------------------|
| Compression in progress | The number of files being compressed. |

show gtp storage-server local file statistics

Table 290: show gtp storage-server local file statistics Command Output Descriptions

| Field | Description |
|----------------------|--|
| Total CDR written | The total number of GTPP CDR files written to the hard disk. |
| Total File Rotations | The total number of file rotation processes completed. |
| File Rotation Type | |
| CDR-Count-limit | The total number of CDR files that have been rotated. |
| Time-limit | Identifies the time limit for file rotation.. |
| Forced (0 CDRs) | Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger. |
| Others | Total number of file rotations happened due to triggers not listed in this table when for local CDR files. |
| File Compression | |
| Compression Success | The total number of files compressed. |
| Compression Failures | The number of files that were not able to be compressed. |

show gtp storage-server status

Table 291: show gtp storage server status Command Output Descriptions

| Field | Description |
|---------------------|--|
| Configuration | |
| Execution Mode | Execution mode of the G-CDRs. |
| File Format | Specifies the file format used for CDRs. |
| Max GCDRs per file | Maximum number of G-CDRs per file. |
| Notification Type | Type of notification. |
| Poll Interval (min) | Poll interval in Minutes. |

| Field | Description |
|--|--|
| Resource Monitor | |
| Outstanding GCDRs File Period (min) | Outstanding G-CDRs file period in minutes. |
| CPU Usage(%) | CPU usage in percentage. |
| Available Disk Gss Datafile Path (GB) | Threshold value for available disk size for path or partition on GSS node where CDR files are generated and stored by GSS Filegen application. Example: /sharedgss |
| Available Disk Gss Install Path (GB) | Threshold value for available disk size for path or partition on GSS node where basic components of GSS like bin directory, config files, postgres bin directory and local log files are present. Example: /gss |
| Available Disk Gss Database Path (GB) | Threshold value for available disk size for path or partition on GSS node where postgres database is installed. Example: /sharedpostgres Note It is possible that gss and postgres are installed on only one partition, i.e. sharedgss. |
| Available Memory (MB) | Available memory at a given time. |
| Resource Monitor Status | |
| Outstanding GCDRs File Period (min) | Number of outstanding G-CDR files during a given period of time (in minutes). |
| State | State of the G-CDR collection. |
| CPU Usage (%) | CPU usage in percentage. |
| State | State of the CPU. |
| Available Disk Gss Datafile Path (GB) State | Measured or current value for disk size for path or partition on GSS node where CDR files are generated and stored by GSS Filegen application. Example: /sharedgss If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated. |
| Available Disk Gss Install Path (GB) State | Measured or current value for disk size for path or partition on GSS node where basic components of gss like bin directory, config files and postgres bin directory and local log files are present. Example : /gss If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated. |

| Field | Description |
|--|---|
| Available Disk Gss Database Path (GB) State | Measured or current value for available disk size for path or partition on GSS node where postgres database is installed. Example: /sharedpostgres If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated. |
| Available Memory (MB) | Amount of memory available for additional G-CDR files. |
| State: | Condition of the available memory. |
| Cluster Status | |
| Cluster Name | Name of the gss cluster. |
| Online Cluster Node | Name of cluster node(s) that are online at the status collection time. |
| Cluster Node List | Name(s) of the node(s) included in the cluster. |

show gtp storage-server streaming file statistics

Table 292: show gtp storage-server streaming file statistics Command Output Descriptions

| Field | Description |
|--------------------------|---|
| Total CDR written | Total number of streaming CDRs written into the RAM-Disk when gtp storage-server "streaming" mode was enabled. |
| Total CDR sent to remote | Total number of streaming CDRs sent to CGF from the HDD once the CGF/GTPP is up. |
| Total Files Failed | During streaming if the CDR file is corrupted, the file will not stream to CGF and renamed to *.fail. This counters indicates the total number of such failed files. |
| Total File Rotations | Total number of file rotations based on File Size, CDR count, time-limit when "streaming" mode was enabled. The file rotation triggers are configurable in GTPP Group Configuration mode. |
| File Rotation Type | |
| File-Size-limit | Total number of file rotations happened due to "File-Size-limit" trigger when "streaming" mode was enabled. |
| CDR-Count-limit | Total number of file rotations happened due to "CDR-Count-limit" trigger when "streaming" mode was enabled. |
| Time-limit | Total number of file rotations happened due to "Time-limit" trigger when "streaming" mode was enabled. |

| Field | Description |
|-------------------------------------|--|
| Forced (0 CDRs) | Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger. |
| Others | Total number of file rotations happened due to triggers not listed in this table when "streaming" mode was enabled. |
| Automatic File Transfer Statistics | |
| Total Gtp-Groups transferred | Total number of GTPP groups for which file transfer was initiated. |
| Total Files transferred | Total number of files that are transferred. |
| File Transfer Status | Indicates the file transfer status i.e. Transfer Not initiated, Transfer Success, Transfer Stopped. |
| Total file transfer initiated count | Total number of times the file transfer was initiated. |
| Total file transfer stopped count | Total number of times the file transfer was stopped. |

show gtp storage-server streaming file statistics verbose

Table 293: show gtp storage-server streaming file statistics verbose Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| Accumulated Statistics: | |
| Total CDR written | Total number of streaming CDRs written into the RAM-Disk when gtp storage-server "streaming" mode was enabled. |
| Total CDR sent to remote | Total number of streaming CDRs sent to CGF from the HDD once the CGF/GTPP is up. |
| Total CDR accepted | Total number of CDRs that are acknowledged by CGF (successfully streamed by the ASR 5000). |
| Total CDR req already fulfilled | Total number of CDR requests that are already acknowledged by CGF. NOTE: When streaming is in progress from a file, the AAA proxy may fail. When the AAA proxy is recovered, requests will <u>not</u> be sent from files that are acknowledged by CGF. Instead, the counter is incremented. |
| Total Files sent to remote | Total number of CDR files sent to GTPP Storage Sever and acknowledged by CGF. NOTE: When streaming is in progress from a file, the AAA proxy may fail. When the AAA proxy is recovered, requests will <u>not</u> be sent from files that are acknowledged by CGF. Instead, the counter is incremented. |

| Field | Description |
|----------------------------------|---|
| Total Files Failed | During streaming if the CDR file is corrupted, the file will not stream to CGF and renamed to *.fail. This counters indicates the total number of such failed files. |
| Total File Rotations | Total number of file rotations based on File Size, CDR count, time-limit when "streaming" mode was enabled. The file rotation triggers are configurable in GTPP Group Configuration mode. |
| File Rotation Type | |
| File-Size-limit | Total number of file rotations happened due to "File-Size-limit" trigger when "streaming" mode was enabled. |
| CDR-Count-limit | Total number of file rotations happened due to "CDR-Count-limit" trigger when "streaming" mode was enabled. |
| Time-limit | Total number of file rotations happened due to "Time-limit" trigger when "streaming" mode was enabled. |
| Forced (0 CDRs) | Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger. |
| Others | Total number of file rotations happened due to triggers not listed in this table when "streaming" mode was enabled. |
| CDR distribution in DRT Messages | |
| 0: | Total number of Data Request Transfer (DRT) requests sent with no CDRs. |
| 1: | Total number of Data Request Transfer (DRT) requests sent with one CDR. |
| 2..5: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 2 to 5. |
| 6..10: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 6 to 10. |
| 11..15: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 11 to 15. |
| 16..20: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 16 to 20. |
| 21..40: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 21 to 40. |
| 41..60: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 41 to 60. |
| 61..80: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 61 to 80. |

| Field | Description |
|-----------|---|
| 81..100: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 81 to 100. |
| 101..150: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 101 to 150. |
| 151..200: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 151 to 200. |
| 201..254: | Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 201 to 254. |
| 255: | Total number of Data Request Transfer (DRT) requests sent where each request contains 255 CDRs. |

show gtp storage-server streaming file counters all

Table 294: show gtp storage-server streaming file counters all Command Output Descriptions

| Field | Description |
|------------------------------|---|
| GTPP Req pending write | Total number of CDR request queued up and not yet stored in RAM-Disk when "streaming" mode was enabled. |
| GTPP Req pending response | Total number of GTPP request yet to send acknowledgement to the AAAMgr after storing the CDRs successfully in RAM-Disk when "streaming" mode was enabled. |
| File related counters | |
| Current file CDR count | Total number of CDRs stored in RAM-disk file which is not yet synced to the HDD when "streaming" mode was enabled. |
| Files pending sync | Total number of files waiting for the sync response from HDD when "streaming" mode was enabled. |
| Current Pending CDRs in HDD | Total number of CDRs written into the hard-disk (Indicates the CDR count of rotated files) when "streaming" mode was enabled. |
| Current Pending Files in HDD | Total number of files stored in hard-disk when "streaming" mode was enabled. |



CHAPTER 62

show gtpu-service

This chapter includes the **show gtpu-service** command output tables.

- [show gtpu-service all, on page 1265](#)

show gtpu-service all

Table 295: show gtpu-service all Command Output Descriptions

| Field | Description |
|---------------------------|---|
| Service name | The name of the service configured in the named context. |
| Context | The name of the context where the service is configured. |
| State | The status of the service, i.e., "Initiated". |
| Echo Interval | The duration between the sending of GTP-U echo messages. |
| Sequence Number | Identifies if the sequence number is added to every GTP-U packet. |
| Include UDP Port Ext.Hdr | Indicates if an extension header, in the GTP-U packet header, allowing for error indication messages will be added. |
| Max-retransmissions | The number of user data packet request message retransmissions that can be sent before an error condition is established. |
| Retransmission Timeout | The number of seconds between the re-sending of GTP-U echo messages |
| IPSEC Tunnel Idle Timeout | The number of seconds an IPSec tunnel is idle before tunnel deletion is triggered. |
| Allow Error-Indication | Indicates if the error indication will be allowed or suppressed upon the receipt of a user data packet for a non-existent session. |
| Address List | Identifies the IP address used to transmit/receive GTP-U packets. Also indicates, if configured, the type of bearer traffic to be associated with the bind address (non-ims media only, ims-media only or all). |

| Field | Description |
|---|--|
| GTPU UDP Checksum | <p>Indicates if the UDP checksum in UPD header of GTP-U packet is enabled/disabled and if it is optimized.</p> <p>Possible values are:</p> <ul style="list-style-type: none">• Disabled• Enabled - Attempt Optimize Default Mode• Enabled - No Optimize |
| Path Failure Detection on gtp echo msgs | <p>Identifies if the path failure detection is enabled upon reaching the maximum number of echo retransmissions.</p> |
| Path Failure Clear Trap | <p>Identifies the configuration of the path-failure clear-trap command.</p> <p>Echo indicates that the path-failure trap will be cleared only on receipt of an echo message from the particular peer.</p> <p>Non-echo indicates that the path-failure trap will be cleared on receipt of the first control plane message for that GTPU peer allocation.</p> |



CHAPTER 63

show hardware

This chapter includes the **show hardware** command output tables.



Important

The nomenclature appearing in the outputs of **show hardware** commands vary based on platform (VPC, ASR 5000, ASR 5500), card type, date of manufacture, and the StarOS release.

- [show hardware \(VPC-DI\)](#), on page 1267
- [show hardware \(VPC-SI\)](#), on page 1269
- [show hardware card \(ASR 5000\)](#), on page 1270
- [show hardware card \(ASR 5500\)](#), on page 1273
- [show hardware inventory \(ASR 5x00\)](#), on page 1277
- [show hardware version \(ASR 5000\)](#), on page 1278
- [show hardware version \(ASR 5500\)](#), on page 1279
- [show hardware version \(VPC-DI\)](#), on page 1280

show hardware (VPC-DI)

In a VPC-DI instance, card numbers correspond to the virtual slot numbers assigned to the virtual machines (VMs) that run StarOS within the virtual chassis created by hypervisor templates.

Table 296: show hardware Command Output Descriptions (VPC-DI)

| Field | Description |
|--|---|
| Control Function and Service Function Cards | |
| Card <number> | Virtual slot number of the specified card. Slots 1 and 2 = CF; Slots 3 – 48 = SF. |
| Card Type | Control Function Virtual Card or 1-Port Service Function Virtual Card. |
| CPU Packages | Number of vCPUs. |
| CPU nodes | Number of CPU nodes. |

| Field | Description |
|---------------------------|---|
| CPU Cores/Threads | Number of cores/threads. |
| Memory | vMemory in Megabytes |
| Platform | Hypervisor type. |
| CFE/Diags | Common Firmware Environment/Diagnostic firmware. |
| Network Interfaces | |
| cpeth0 | VPC-DI network communication port. |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| loeth0 | CF only: LOCAL management port (Console). |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| port_slot_port | SF only: Service port. |
| Address | MAC address. |
| Device | Device type. |
| ID | VPC-DI identifier (hexadecimal). |
| Driver | Driver type. (alphanumeric string) |
| RxQ(s)/RINGSZ/COALESCE | Receive queue information from hypervisor. |
| TxQ(s)/RINGSZ/COALESCE | Transmit queue information from hypervisor. |
| Storage Devices | |
| Virtual Flash | Indicates whether or not the virtual /flash drive is Present. |

| Field | Description |
|--------------------|---|
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |
| Hard Drive 1 | Indicates whether virtual Hard Drive 1 is Present. |
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |
| Hard Drive 2 | Indicates whether virtual Hard Drive 2 is Present. |
| USB 1 | Indicates whether virtual USB port 1 is Present (must be configured via hypervisor). |
| USB 2 | Indicates whether virtual USB port 2 is Present (must be configured via hypervisor). |
| CDROM 1 | Indicates whether virtual a CDROM is Present (must be configured via hypervisor). |
| Type | CDROM drive type (alphanumeric string). |
| Model | CDROM drive model (alphanumeric string). |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |

show hardware (VPC-SI)

For VPC-SI, the output of this command displays the parameters of the virtual chassis created by the hypervisor in which the StarOS VM runs.

Table 297: show hardware Command Output Descriptions (VPC-SI)

| Field | Description |
|---------------------------|---------------------|
| System information | |
| Platform | Hypervisor type. |
| UUID/Serial Number | Cisco serial number |
| CPU Packages | Number of vCPUs. |

| Field | Description |
|---------------------------|--|
| CPU nodes | Number of CPU nodes. |
| CPU Cores/Threads | Number of cores/threads. |
| Memory | vMemory in Megabytes |
| Storage Devices | |
| Virtual Flash | Indicates whether or not the virtual /flash drive is Present. |
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |
| Hard Drive 1 | Indicates whether virtual Hard Drive 1 is Present. |
| Type | Virtual drive type (alphanumeric string). |
| Model | Virtual drive model (alphanumeric string). |
| Hard Drive 2 | Indicates whether virtual Hard Drive 2 is Present. |
| USB 1 | Indicates whether virtual USB port 1 is Present (must be configured via hypervisor). |
| USB 2 | Indicates whether virtual USB port 2 is Present (must be configured via hypervisor). |
| CDROM 1 | Indicates whether virtual a CDROM is Present (must be configured via hypervisor). |
| Type | CDROM drive type (alphanumeric string). |
| Model | CDROM drive model (alphanumeric string). |
| Network Interfaces | |
| loeth0 | LOCAL management port IP address and port type. |
| port1_<10 through 21> | Traffic management port IP address and port type in parentheses. |

show hardware card (ASR 5000)

Table 298: show hardware card Command Output Descriptions (ASR 5000)

| Field | Description |
|---------------------------------|------------------------------------|
| Common to All Card Types | |
| Card <number> | Slot number of the specified card. |

| Field | Description |
|-------------------------------|---|
| Card Type | Description of the card in the specified slot, for example "System Management Card". |
| Card Description | SMC, PSCx, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2, SPIO, RCC |
| Part Number | Legacy part number (xxx-xx-xxxx xx). |
| Serial Number | Legacy part number (alphanumeric string). |
| CLEI Code, Starent CLEI Code | Common Language Equipment Identifier (CLEI) code. |
| UDI Product ID | Unique Device Identifier (UDI) Product Identifier (PID). |
| UDI Version ID | UDI version. |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| UDI CLEI Code | UDI Common Language Equipment Identifier (CLEI) code. |
| UDI Top Assembly Number | UDI for top-level assembly. |
| UDI TAN Revision | UDI Top Assembly Number (TAN) revision level. |
| UDI Deviation Number | UDI deviation number (DEVNUM). |
| MAC Addresses | Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx. |
| Switch Fabric Modes | Mode type – "control plane" and/or "switch fabric". |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| System Management Card | |
| Compact Flash | Status of PCMCIA flash memory card, for example "Present". |
| Type | Memory capacity of the Compact Flash card. |
| Model | Operational card type. |
| Serial Number | Serial number of this Compact Flash card. |
| PCMCIA1 | Status of front panel Personal Computer Memory Card International Association (PCMCIA) card, for example "Not Present". |

| Field | Description |
|--|--|
| Hard Drive 1 | Status of this hard drive, for example "Present". |
| Type | Drive capacity in Mbytes. |
| Model | Manufacturer and model number. |
| Serial Number | Serial number of the hard drive. |
| SRM | Status, Reset, and Monitoring firmware. |
| BIOS | Basic Input/Output System. |
| CIF FPGA | Chassis Information (CIF) Field Programmable Gate Array (FPGA) firmware. |
| CPU 0 Type/Memory | Socket: 0: <processor type>, <processor speed>; Chipset: <chipset_type>, <part_number>, <RAM> |
| CPU 0 DIMM-A1 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-B1 P/N | Dual In-line Memory Module part number. |
| CPU 0 CFE/Diags | Common Firmware Environment/Diagnostic firmware. |
| Packet Processing Card (PSC, PSC2, PSC3, PSCA, PPC) | |
| NPU Microcode | Firmware running on the Network Processing Unit (NPU). |
| Slave SCB | Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB). |
| PSR, PSR2 | Power, Status, and Reset firmware. |
| BIOS | Basic Input/Output System firmware. |
| DT FPGA, DT2 FPGA | Data Transport (DT) Field Programmable Gate Array (FPGA) firmware. |
| CPU 0 Type/Memory | Socket: 0, <processor type>, <processor speed>. Socket: 1, <processor type>, <processor speed>. Chipset: <components>. |
| CPU 0 DIMM-N0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0D1 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 Type/Memory | <processor type> <processor speed> <memory in MB> |
| CPU 0 CFE/Diags | Common Firmware Environment/Diagnostic firmware. |

| Field | Description |
|--|--|
| Line Cards (SPIO, RCC, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2) | |
| Slave SCB | Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB). |
| FPGA | Field-Programmable Gate Array firmware. |
| SFP Info (Port 1 or 2) | Information about the Small Form-factor Pluggable (SFP) transceivers includes: Vendor Name, Vendor IEEE ID, P/N (part number), S/N (serial number, date). |

show hardware card (ASR 5500)

Table 299: show hardware card Command Output Descriptions (ASR 5500)

| Field | Description |
|-----------------------------------|---|
| Common to All Card Types | |
| Card <number> | Slot number of the specified card. |
| Card Type | Data Processing Card Management & 20x10Gb I/O Card Management v2 & 4x 100Gb I/O Card System Status Card Fabric & 2x200GB Storage Card |
| Description | Card type – DPC, DPC2, MIO, MIO2, SSC, FSC. |
| Starent Part Number | Legacy part number (xxx-xx-xxxx xx). |
| Cisco Part Number | Cisco part number. |
| CLEI Code | Common Language Equipment Identifier (CLEI) code. |
| UDI Serial Number | Unique Device Identifier (UDI) serial number (alphanumeric string). |
| UDI Product ID | UDI Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| UDI Top Assem Num | UDI for top-level assembly. |
| Data Processing Card (DPC) | |
| Daughter Card #3 | Daughter card number. |

| Field | Description |
|-----------------------|---|
| Card Type | DPC CCK Daughter Card (crypto). |
| Description | DPC_CRYPT0_DC. |
| Starent Part Number | Legacy part number (xxx-xx-xxxx xx). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |
| CAF | Control and Availability FPGA firmware. |
| CPU 0 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 0 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N0C2D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C1D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 DIMM-N1C2D0 P/N | Dual In-line Memory Module part number. |
| CPU 0 BIOS | Basic Input/Output System. |
| CPU 0 i82599 | Intel 10GbE Controller firmware. |
| CPU 0 i82574 | Intel Gigabit Ethernet Controller firmware. |
| CPU 0 CFE | Common Firmware Environment version. |
| CPU 1 Type/Memory | Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed> |
| CPU 1 DIMM-N0C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N0C2D2 P/N | Dual In-line Memory Module part number. |

| Field | Description |
|--------------------------------------|---|
| CPU 1 DIMM-N1C0D0 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 DIMM-N1C1D1 P/N | Dual In-line Memory Module part number. |
| CPU 1 BIOS | Basic Input/Output System. |
| CPU 1 i82599 | Intel 10 GbE Controller firmware. |
| CPU 1 i82574 | Intel Gigabit Controller firmware. |
| CPU 1 CFE | Common Firmware Environment version. |
| Management Input/Output (MIO) | |
| Daughter Card #<number> | Daughter card number. |
| Card Type | MIO 10x10Gb Daughter Card. MIO CCK Daughter Card (crypto). |
| Description | MDC MIO_CRYPT0_DC |
| Starent Part Number | Legacy part number (xxx-xx-xxxx xx) |
| Cisco Part Number | Cisco part number. |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| Midplane: | Chassis EPROM information. |
| Card Type | Midplane EPROM Card. |
| MAC Addresses | Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx. |
| MEC: | Midplane EEPROM Card. |
| Description | MEC. |
| Cisco Part Number | Cisco part number (nn-nnnnn-nn Ln). |
| UDI Serial Number | Unique Device Identifier (UDI) serial number [alphanumeric string]. |
| UDI Product ID | UDI Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| Midplane: | |

| Field | Description |
|---------------------------------|---|
| Description | Midplane. |
| Cisco Part Number | Cisco part number (nn-nnnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| Chassis: | |
| Description | Chassis. |
| Cisco Part Number | Cisco part number (nn-nnnnnn-nn Ln). |
| UDI Serial Number | UDI serial number (alphanumeric string). |
| UDI Product ID | Cisco Product Identifier (PID) [alphanumeric string]. |
| UDI Version ID | UDI version (alphanumeric string). |
| UDI Top Assem Num | UDI for top-level assembly. |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| SDHC Flash | Secure Digital High Capacity on-board flash memory (/flash drive). |
| Type | Disk capacity in Mbytes. |
| Model | Generic-UltraFastMedia. |
| USB 1 | Status of front panel USB port, for example. "Not Present". |
| SFP+ Module On Port <number>: | Information on the SFP+ transceiver in the specified port (10 through 29). |
| Transceiver Info | SFP+ transceiver type. |
| Vendor Info | Vendor Name and Vendor IEEE ID. |
| Part Info | Cisco PID and serial number. |
| System Status Card (SSC) | |

| Field | Description |
|--------------------------------------|---|
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |
| Fabric and Storage Card (FSC) | |
| Card Programmables | Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software. |
| BCF | Board Control FPGA firmware. |

show hardware inventory (ASR 5x00)

Table 300: show hardware inventory Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Slot | Slot number of the specified card. |
| Type | Descriptor of the card in the specified slot. |
| Part Number | Starent or Cisco part number. |
| Product ID / Version ID | Cisco PID and version identifier. |
| Serial Number | Serial number of the card. |
| CLEI code | Common Language Equipment Identifier (CLEI) code. |
| Fan Tray (ASR 5500 only) | Lower Rear Lower Front Upper Rear Upper Front |

show hardware version (ASR 5000)

Table 301: show hardware version Command Output Descriptions (ASR 5000)

| Field | Description |
|-------------------------------|--|
| Slot | Slot number of the specified card. |
| Type | Descriptor of the card in the specified slot. |
| Packet Processing Card | |
| SSCB | Slave Serial Control Bus (SSCB) firmware. |
| PSR, PSR2 | Power, Status, and Reset firmware. |
| BIOS A | Basic Input/Output System A. |
| BIOS B | Basic Input/Output System B. |
| DT, DT2 | Data Transport (DT) FPGA firmware. |
| System Management Card | |
| SRM | Status, Reset, and Monitoring (SRM) firmware. |
| BIOS A | Basic Input/Output System A. |
| BIOS B | Basic Input/Output System B. |
| On-Card | Version of the firmware that is on the boot flash for the component. |
| CIF-FPGA Running | Chassis Information (CIF) FPGA firmware that is currently operational. |
| Line Cards | |
| SSCB | Slave Serial Control Bus (SSCB) firmware. |
| FPGA | Field Programmable Gate Array. |
| On-Card | Version of the firmware that is on the boot flash for the component. |
| WPOS Running | WinPath Operational Software |
| Diagnostic Revisions | |
| On-Card | Version of the firmware that is on the boot flash for the component. |
| CPU 0 Running | Firmware that is currently operational on this CPU. |

| Field | Description |
|------------------------------------|--------------------------|
| Fan Tray Controller Version | |
| Upper Fan Tray | UFT controller firmware. |
| Lower Fan Tray | LFT controller firmware. |

show hardware version (ASR 5500)

Table 302: show hardware version Command Output Descriptions (ASR 5500)

| Field | Description |
|------------------------------------|--|
| Slot | Slot number of the specified card. |
| Type | Descriptor of the card in the specified slot – DPC, DPC2, MIO, MIO2, SSC, FSC. |
| BCF | Board Control FPGA firmware. |
| CAF | Control and Availability FPGA firmware. |
| CAF Rcry | CAF Recovery. |
| DCF A | Daughter Card FPGA A firmware. |
| DCF B | Daughter Card FPGA B firmware. |
| CPU | CPU number. |
| BIOS A | Basic Input/Output System A. |
| BIOS B | Basic Input/Output System B. |
| 82599 A | Intel 10GbE Controller firmware. |
| 82574 A | Intel Gigabit Ethernet Controller firmware. |
| PLX8618 | PCIe Switch PROM. |
| N9485 A | Serial Attached SCSI Controller A, SPI (SCSI Parallel interface) Flash. |
| N9485 B | Serial Attached SCSI Controller B, SPI Flash. |
| CFE Flsh | Common Firmware Environment on /flash. |
| Fan Tray Controller Version | |
| Upper Fan Tray | UFT controller firmware (front and rear). |
| Lower Fan Tray | LFT controller firmware (front and rear). |

show hardware version (VPC-DI)

Table 303: show hardware version (VPC-DI) Command Output Descriptions (VPC-DI)

| Field | Description |
|-----------|--|
| Slot | Slot number of the specified card. |
| Type | Descriptor of the card in the specified slot – CFC or SFC. |
| CFE Flash | Version number of Common Firmware Environment. |



CHAPTER 64

show hd-storage-policy

This chapter includes the **show hd-storage-policy** command output tables.

- [show hd-storage-policy counters all, on page 1281](#)
- [show hd-storage-policy statistics all, on page 1281](#)

show hd-storage-policy counters all

Table 304: show hd-storage-policy counters all Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| HD Storage Policy | The name of the HD storage policy configured on the system. |
| Diameter Counters | |
| File related counters | |
| Current ACR file record count | The total number of ACR file records for this policy currently stored on the HDD. |
| Current ACR file Size | The current ACR file size on the HDD for this policy. |
| Current ACR Files Synched to HDD | The total number of ACR files rotated and sent to the hard disk drive from the time the system is operational. |

show hd-storage-policy statistics all

Table 305: show hd-storage-policy statistics all Command Output Descriptions

| Field | Description |
|---------------------|---|
| HD Storage Policy | The name of the HD storage policy configured on the system. |
| Diameter Statistics | |

| Field | Description |
|--------------------------|--|
| Total ACR written | The total number of active charging records written to the HD storage device for this policy. |
| Total ACR File Rotations | The total number of times files were rotated. |
| File Rotation Type | |
| ACR-File-Size-limit | The file size limit, in megabytes. When exceeded, file rotation occurs. |
| ACR-Record-Count-limit | The record count limit. When exceeded, file rotation occurs. |
| ACR-Time-limit | The time limit, in seconds. When exceeded, file rotation occurs. |
| ACR-Manual-File-Rotation | The total number of times file rotation was initiated manually. |
| ACR-Others | The total number of ACR rotations for reasons other than above. If incremented, this counter generally indicates an error condition. |



CHAPTER 65

show hd raid verbose

- [show hd raid verbose, on page 1283](#)

show hd raid verbose

Table 306: show hd raid verbose Command Output Descriptions

| Field | Description |
|----------|---|
| HD RAID | |
| State | The following conditions apply to the RAID function: Available (clean): At least one disk is ready Available (active): Disk resynchronizing Not Available |
| Degraded | The following conditions apply: No: Both disks are ready Yes: One disk is ready |
| UUID | Universal Identification number |
| Size | Drive size in bytes |
| Action | The following conditions apply: Idle: Neither resynchronizing nor rebuilding RAID Recovering (dd% done) Rebuilding Resynching (dd% done) Checking (dd% done) Repairing (dd% done) |
| Disk | Disk name |

| Field | Description |
|-------|---|
| | <p>The following conditions apply to the disk:</p> <p>State:</p> <p>In-sync component Spare component: Rebuilding RAID Valid image of UUID: Different image Not used: Set by Admin Faulty component Invalid partition or image Unknown partition or image</p> <p>Created Date image created</p> <p>Updated Date image updated</p> <p>Events Interval event count</p> <p>Model Disk model number</p> <p>Serial Number Disk serial number</p> <p>Location Disk location</p> <p>Size Disk size in bytes</p> <p>Partitions Total number of partitions</p> <p>Partition Partition size in bytes and sectors for each partition</p> |



CHAPTER 66

show henbgw



Important

In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

This chapter includes the **show henbgw** command output tables.

- [show henbgw-access-service all](#), on page 1285
- [show henbgw-access-service henb-association full](#), on page 1286
- [show henbgw-access-service statistics verbose](#), on page 1287
- [show henbgw-network-service all](#), on page 1296

show henbgw-access-service all

Table 307: show henbgw-access-service all Command Output Descriptions

| Field | Description |
|-----------------|---|
| Service name | The name used to identify the HeNB-GW Access service to the system. Important At a time only one HeNB-GW Access Service can be configured per system. |
| Context name | The name of the system context in which the HeNB-GW Access service is defined. |
| Status | The status of the configured HeNB-GW Access Service, e.g. Started or Not Started. |
| SCTP IP Address | The IP address used to transmit SCTP messages from HeNBs to the HeNB-GW. |
| SCTP Port | The HeNB-GW uses this port to listen for SCTP messages from HeNBs. |

| Field | Description |
|------------|--|
| MME Code | The HeNB-GW Access Service uses MME Code which is a configurable option used to send HENB prior to 17.0 release in S1 Setup Resp. |
| MME Group | The HeNB-GW Access Service uses this MME group ID to identify the MME for communication. This configurable option used to be sent to HENB prior to 17.0 in S1 Setup Resp. |
| PLMN Id | The Public Land Mobile Network ID configured for this HeNB-GW Access service. It consists of the MCC and MNC (see below). |
| MCC | The Mobile Country Code defined for use with this HeNB-GW Access service. It consists of the first 3 digits of the Available Radio Network PLMN ID. |
| MNC | The Mobile Network Code defined for use with this HeNB-GW Access service. It consists of the last 3 digits of the Available Radio Network PLMN ID. |
| S1-U Relay | Identifies if the S1-U Relay is configured or not for this HeNB-GW Access Service. If S1-U Relay is disabled, the data path is established directly between HeNB and S-GW. |

show hcnbgw-access-service hcnb-association full

Table 308: show hcnbgw-access-service hcnb-association full peer address peer_addr Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| SessMgr | Session Manager instance used for the entrance of S1AP signaling messages from access side. |
| Peerid | ID of the associated peer(s) to the HeNB-GW Access Service. |
| Global HENB ID | Globally Unique ID of HENB. |
| HENB Name | The name used to identify the Home eNodeB connected to the HeNB-GW Access service. |
| HENBGW Access Service Name | The name used to identify the HeNB-GW Access service to the system. |
| HENBGW Access Service Address | The IP address used to bind the HeNB-GW Access service to the system. |
| HENBGW ACCESS Service Port | The IP Port associated to the IP address of the configured HeNB-GW Access service to the system. |
| HENB IP Address(s) | IP address(s) assigned to the connected Home eNode B(s). |

| Field | Description |
|------------------|--|
| HENB Port | Port(s) associated to the HeNB's IP address(s) |
| Paging DRX | Paging Drx value received from HeNB in S1 Setup Request. |
| Supported TAI(s) | TAI of HeNB received. |
| CSG ID(s) | CSG ID of HeNB received. |

show hcnbgw-access-service statistics verbose

Table 309: show hcnbgw-access-service verbose Command Output Descriptions

| Field | Description |
|---|---|
| SCTP Statistics: Transmitted SCTP Data | |
| Init Chunks | The total SCTP packets with INIT transmitted over SCTP interface by this HeNBGW. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK transmitted over SCTP interface by this HeNBGW. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN transmitted over SCTP interface by this HeNBGW. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this HeNBGW. |
| Cookie Chunks | The total SCTP packets with COOKIE transmitted over SCTP interface by this HeNBGW. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this HeNBGW. |
| Data Chunks | The total SCTP packets with DATA transmitted over SCTP interface by this HeNBGW. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK transmitted over SCTP interface by this HeNBGW. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this HeNBGW. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT transmitted over SCTP interface by this HeNBGW. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by thisHeNBGW. |

| Field | Description |
|---|---|
| Abort Chunks | The total SCTP packets with ABORT transmitted over SCTP interface by this HeNBGW. |
| Error Chunks | The total SCTP packets with ERROR transmitted over SCTP interface by this HeNBGW. |
| SCTP Statistics: Received SCTP Data | |
| Init Chunks | This sub-group displays the statistics of the total data received over SCTP interface and processed by this HeNBGW. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK received over SCTP interface by this HeNBGW. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN received over SCTP interface by this HeNBGW. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this HeNBGW. |
| Cookie Chunks | The total SCTP packets with COOKIE received over SCTP interface by this HeNBGW. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK received over SCTP interface by this HeNBGW. |
| Data Chunks | The total SCTP packets with DATA received over SCTP interface by this HeNBGW. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK received over SCTP interface by this HeNBGW. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this HeNBGW. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT received over SCTP interface by this MMEmanager. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this HeNBGW. |
| Abort Chunks | The total SCTP packets with ABORT received over SCTP interface by this HeNBGW. |
| Error Chunks | The total SCTP packets with ERROR received over SCTP interface by this HeNBGW. |
| SCTP Statistics: Retransmitted SCTP Data | |
| Init Chunks | The total SCTP packets with INIT retransmitted over SCTP interface by this HeNBGW. |

| Field | Description |
|---|---|
| Shutdown Chunks | The total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this HeNBGW. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this HeNBGW. |
| Cookie Chunks | The total SCTP packets with COOKIE retransmitted over SCTP interface by this HeNBGW. |
| Data Chunks | The total SCTP packets with DATA transmitted over SCTP interface by this HeNBGW. |
| Total Bytes Sent | The total bytes processed and sent over SCTP interface by this HeNBGW. |
| Total Bytes Received | The total bytes received over SCTP interface by this HeNBGW for processing. |
| Total Packets Sent | The total packets processed and sent over SCTP interface by this HeNBGW. |
| Total Packets Received | The total packets received over SCTP interface by this HeNBGW for processing. |
| S1AP Statistics: Transmitted S1AP Data | |
| S1 Setup Resp | The total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| S1 Setup Fail | The total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Reset | The total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Reset Ack | The total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Overload Start | The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Overload Stop | The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |

| Field | Description |
|-------------------------|--|
| MME Dir Info Transfer | The total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Paging | The total number of PAGING messages for paging procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| eNB Config Update Ack | The total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| eNB Config Update Fail | The total number of ENB CONFIGURATION UPDATE FAILURE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| S1AP Msg Encode Fail | The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| E-RAB Setup Req | The total number of E-RAB setup request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| E-RAB Modify Req | The total number of E-RAB modify request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| E-RAB Release Command | The total number of E-RAB release request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Initial Ctxt Setup Req | The total number of initial context setup request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| UE Ctxt Release Command | The total number of initial UE context release command messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| UE Context Modify Req | The total number of UE context modify request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Downlink NAS Transport | The total number of NAS Transport in downlink messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Error Ind | The total number of S1AP messages with error-indication processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |

| Field | Description |
|-------------------------|--|
| Handover Command | The total number of S1AP messages with handover command processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Handover Prep Fail | The total number of S1AP messages generated for handover preparation failure procedure and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Handover Request | The total number of S1AP messages with handover request processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Handover Cancel Ack | The total number of HANDOVER_CANCEL_ACK messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Path Switch Request Ack | The total number of PATH_SWITCH_REQ_ACK messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Path Switch Req Fail | The total number of PATH_SWITCH_REQ_FAIL messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| Downlink S1 CDMA2000 | The total number of CDMA2000 request messages processed and transmitted over S1AP interface by S1 tunneling to interact with cdma2000 network in downlink direction by this HeNBGW to eNodeB. |
| Trace Start | The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace started for specific session by this HeNBGW to eNodeB. |
| Deactivate Trace | The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace deactivated for specific session by this HeNBGW to eNodeB. |
| MME Status Transfer | The total number of messages processed and transmitted over S1AP interface to indicate the MME status by this HeNBGW to eNodeB. |
| Loc Report Control | The total number of LOCATION REPORT CONTROL messages sent by the MME to the eNodeB requesting the current location of the UE. |
| MME Config Update | The total number of MME CONFIGURATION UPDATE messages sent by the MME to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface. |

| Field | Description |
|--|---|
| S1AP Encode Fail | The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| MME Config Transfer | The total number of MME CONFIGURATION TRANSFER messages sent by the MME to the eNodeB for the purpose of transferring RAN configuration information. |
| Kill Request | The total number of KILL REQUEST messages sent by the MME to the eNodeB. |
| Downlink Non-UE LPPaTpt | The total number of non-UE downlink transport messages sent by the MME to the eNodeB for LPPa (LTE Positioning Protocol annex). |
| Downlink UE LPPaTpt | The total number of UE downlink transport messages sent by the MME to the eNodeB for LPPa. |
| S1AP Statistics: Received S1AP Data | |
| S1 Setup Req | The total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1AP interface by this HeNBGW from eNodeB. |
| Reset | The total number of S1 RESET messages for S1 reset procedure received over S1AP interface by this HeNBGW from eNodeB. |
| Reset Ack | The total number of S1 RESET-ACK messages for S1 reset procedure received over S1-P interface by this HeNBGW from eNodeB. |
| eNB Dir Info Transfer | The total number of ENB DIRECT INFORMATION TRANSFER messages for eNodeB Direct Information Transfer procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| eNB Config Update | The total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB. |
| S1AP Msg Decode Failure | The total number of failure occurred during S1AP control message decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1AP interface by this HeNBGW from eNodeB. |
| S1AP Msg Unexpected | The total number of failure occurred due to unexpected events during S1AP control message procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1AP interface by this HeNBGW from eNodeB. |
| E-RAB Setup Resp | The total number of E-RAB setup request response messages received over S1AP interface by this HeNBGW from eNodeB. |

| Field | Description |
|-------------------------|--|
| E-RAB Modify Resp | The total number of E-RAB modify request response messages received over S1AP interface by this HeNBGW from eNodeB. |
| E-RAB Release Resp | The total number of E-RAB release request response messages received over S1AP interface by this HeNBGW from eNodeB. |
| E-RAB Release Ind | The total number of E-RAB release indicator messages received over S1AP interface by this HeNBGW from eNodeB. |
| Initial Ctxt Setup Resp | The total number of initial context setup request response messages received over S1AP interface by this HeNBGW from eNodeB. |
| Initial Ctxt Setup Fail | The total number of initial UE context setup failure messages received over S1AP interface by this HeNBGW from eNodeB. |
| UE Context Release Req | The total number of initial UE context release command messages received over S1AP interface by this HeNBGW from eNodeB. |
| UE Ctxt Release Comp | The total number of UE context release request messages received over S1AP interface by this HeNBGW from eNodeB. |
| UE Context Modify Resp | The total number of UE context modify request messages received over S1AP interface by this HeNBGW from eNodeB. |
| UE Ctxt Modify Fail | The total number of UE context modify request failure messages received over S1AP interface by this HeNBGW from eNodeB. |
| Initial UE Message | The total number of initial UE messages received over S1AP interface by this HeNBGW from eNodeB. |
| Uplink NAS Transport | The total number of NAS Transport in Uplink direction messages received over S1AP interface by this HeNBGW from eNodeB. |
| NAS Non-Delivery Ind | The total number of S1AP messages for NAS non delivery indication received over S1AP interface by this HeNBGW from eNodeB. |
| Error Indication | The total number of S1AP messages with error-indication received over S1AP interface by this HeNBGW from eNodeB. |
| Handover Request Ack | The total number of ACK messages for handover request received over S1AP interface by this HeNBGW from eNodeB. |
| Handover Cancel | The total number of handover cancel messages received over S1AP interface by this HeNBGW from eNodeB. |
| Handover Required | The total number of handover required messages received over S1AP interface by this HeNBGW from eNodeB. |
| Handover Fail | The total number of HANDOVER_FAILURE messages received over S1AP interface by this HeNBGW from eNodeB. |

| Field | Description |
|------------------------|---|
| Handover Notify | The total number of HANDOVER_NOTIFY messages received over S1AP interface by this HeNBGW from eNodeB. |
| Path Switch Req | The total number of PATH_SWITCH_REQ messages received over S1AP interface by this HeNBGW from eNodeB. |
| eNB Status Transfer | The total number of messages received for eNodeB status transfer message over S1AP interface by this HeNBGW from eNodeB. |
| UE Capability Info Ind | The total number of messages with UE capability information indication received over S1AP interface by this HeNBGW from eNodeB. |
| Uplink S1 CDMA2000 | The total number of response messages for S1 tunneling with cdma2000 network in uplink direction received over S1AP interface by this HeNBGW from eNodeB. |
| Trace Failure Ind | The total number of response messages with Session Trace failure indication for specific session received over S1AP interface by this HeNBGW from eNodeB. |
| Location Report | The total number of LOCATION REPORT messages sent by the eNodeB to the MME providing the UE's location. |
| Loc Report Fail Ind | The total number of LOCATION REPORT FAILURE INDICATION messages sent by the eNodeB to the MME indicating that a LOCATION REPORT CONTROL procedure has failed due to an interaction with a handover procedure. |
| S1AP Decode Fail | The total number of response message indicating S1AP decode failure received over S1AP interface by this HeNBGW from eNodeB. |
| MME Config Update Fail | The total number of MME CONFIGURATION UPDATE FAILURE messages sent by the eNodeB to the MME indicating an S1-MME configuration update failure. |
| MME Config Update Ack | The total number of MME CONFIGURATION UPDATE ACKNOWLEDGEMENT messages sent by the eNodeB indicating the receipt of the Transport Network Layer (TNL) association information. |
| S1AP Unexpected Event | The total number of message indicating failure due to unexpected event received over S1AP interface by this HeNBGW from eNodeB. |
| eNB Config Transfer | The total number of ENB CONFIGURATION TRANSFER message received by the MME from the eNodeB for the purpose of transferring RAN configuration information. |

| Field | Description |
|---------------------------------------|--|
| Uplink Non-UE LPPaTpt | The total number of non-UE uplink transport messages received by the MME from the eNodeB for LPPa (LTE Positioning Protocol annex). |
| Uplink UE LPPaTpt | The total number of UE uplink transport messages received by the MME from the eNodeB for LPPa. |
| Kill Response | The total number of CMAS Kill Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to indicate the list of warning areas where cancellation of the broadcast of the identified message was successful and unsuccessful. |
| Radio Network Error Statistics | |
| Unknown MME UE S1AP Id | The total number of times an MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Unknown ENB UE S1AP Id | The total number of times an ENB UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Unknown UE S1AP Id Pair | The total number of times an ENB and MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Protocol Error Statistics | |
| Transfer Syntax Error | The total number of messages received by the MME from the eNodeB containing a Transfer Syntax Error. |
| Semantic Error | The total number of messages received by the MME from the eNodeB containing a Semantic Error. |
| Message Not Compatible | The total number of messages received by the MME from the eNodeB that were not compatible with the receiver state. |
| Abstract Syntax Error | This sub-group displays abstract syntax error statistics for S1AP messages received by the MME from the eNodeB. |
| Reject | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "reject". |
| Ignore And Notify | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "ignore and notify". |

| Field | Description |
|---------------------------|---|
| Falsely Constr Msg | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error because the message contained IEs or IE groups in the wrong order or with too many occurrences. |
| Total eNodeB Associations | The total number of eNodeB associations |
| License Exceeded | Total number of messages discarded due to license getting exceeded. |

show hcnbgw-network-service all

Table 310: show hcnbgw-network-service all Command Output Descriptions

| Field | Description |
|-----------------|--|
| Service name | The name used to identify the HeNB-GW Network service to the system. Important At a time only one HeNB-GW Network Service can be configured per system. |
| Context name | The name of the system context in which the HeNB-GW Network service is defined. |
| Status | The status of the configured HeNB-GW Network Service, e.g. Started or Not Started. |
| Logical eNodeB | Displays the configured MCC, MNC, and Macro eNodeB or Home eNodeB ID configured for this Logical eNodeB. More configuration details pertaining to this Logical eNodeB are listed below: Important This information is listed for each individual Logical eNodeB, since multiple Logical eNodeBs can be configured per HeNB-GW Network service. |
| SCTP Port | The HeNB-GW uses this port to communicate with the MME(s) over S1-MME interface |
| SCTP IP Address | The IP address used by HeNB-GW for establishing S1 associations with MME(s). |
| TAI List DB | The name of the TAI database used to configure the list of TAI(s) supported by the Logical eNodeB instance |
| MME Pool Name | The MME pool name used to associate an MME Pool with the Logical eNodeB instance. |



CHAPTER 67

show hnbgw



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

This chapter includes the **show hnbgw** command output tables.

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- [show hnbgw access-control-db imsi](#), on page 1298
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- [show hnbgw-global](#), on page 1309
- [show hnbgw-service](#), on page 1311
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show hnbgw access-control-db

Table 311: show hnbgw access-control-db Command Output Descriptions

| Field | Description |
|---------------------------------------|---|
| Total Number of IMSIs | The total number of IMSIs available in White List of Access Control database on HNB-GW service instance. |
| Number of Registered IMSIs | The total number of IMSIs from Access Control database are registered on HNB-GW service instance. |
| Number of IMSIs undergoing Relocation | The total number of IMSIs from Access Control database are under the process of relocation on HNB-GW service instance. Important From StarOS 14.0 onward, this counter is deprecated. |

| Field | Description |
|------------------------------------|---|
| Number of IMSIs marked for Purging | The total number of IMSIs from Access Control database are marked for purging from database on HNB-GW service instance. |

show hnbgw access-control-db imsi

Table 312: show hnbgw access-control-db imsi Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| IMSI | Indicates the IMSI for which statistics queried in White List of Access Control database on HNB-GW service instance. |
| Owner Location Area Code (LAC) | Indicates the Location Area Code (LAC) of the owner of specific IMSI registered in Access Control database on HNB-GW service instance. |
| Undergoing Relocation | Indicates whether queried IMSI is going through relocation procedure or not. |
| HNBS having IMSI in whitelist | Indicates the total number of HNBS where specific IMSI is in White List in Access Control database on HNB-GW service instance. |
| Core Network Id | Indicates the core Network ID of specific IMSI. |
| IMSI Purge Timer | This group indicates status of IMSI purge timer for Access Control database. |
| State | Indicates the status of Access Control database purge process. |
| Start Time | Indicates the configured time for start of purge process on Access Control database for specific IMSI. |
| End Time | Indicates the configured time for completion of purge process on Access Control database for specific IMSI. |

show hnbgw counters



Note Show command output described in table below is not supported in StarOS Release 14.0 and onward.

Table 313: show hnbgw counters Command Output Descriptions

| Field | Description |
|---|---|
| Number of registered HNBs | The total number of HNB devices (Open and Closed) registered with this HNB-GW service. |
| Number of registered Open HNBs | The total number of Open HNB devices registered with this HNB-GW service. |
| Number of registered Closed HNBs | The total number of Closed HNB devices registered with this HNB-GW service. |
| Number of registered UEs | The total number of User Equipment devices registered with this HNB-GW service through open and closed HNBs. |
| Number of UEs registered from Open HNBs | The total number of User Equipment devices registered with this HNB-GW service through open HNBs. |
| Number of UEs registered from Closed HNBs | The total number of User Equipment devices registered with this HNB-GW service through closed HNBs. |
| Number of UEs with IuPS connection | The total number of User Equipment devices that have established a connection with the Packet Switched network. |
| Number of UEs with IuCS connection | The total number of User Equipment devices that have established a connection with the Circuit Switched network. |
| Number of UEs with IuPS and IuCS connection | The total number of User Equipment devices that have established connections to both the Packet Switched and Circuit Switched networks. |
| Number of Idle UEs | The total number of User Equipment devices that have no active connections to either the Packet Switched or Circuit Switched networks. |

show hnbgw counters



Note Show command output described in table below is supported in StarOS Release 14.0 and onward only.

Table 314: show hnbgw counters Command Output Descriptions 1

| Field | Description |
|-----------------|--|
| Registered HNBs | This group displays the total number of Closed, Hybrid, and Open HNBs registered with HNB-GW services. |
| Closed HNBs | The total number of Closed HNB devices registered with this HNB-GW service. |

| Field | Description |
|--------------------------|--|
| Hybrid HNBs | The total number of Hybrid HNB devices registered with this HNB-GW service. |
| Open HNBs | The total number of Open HNB devices registered with this HNB-GW service. |
| Registered UEs | This group displays the total number of User Equipment devices registered with this HNB-GW service through Closed, Hyrbids, and Open HNBs. |
| Closed HNB UEs | The total number of User Equipment devices registered with this HNB-GW service through Closed HNBs. |
| Hybrid HNB UEs | The total number of User Equipment devices registered with this HNB-GW service through Hybrid HNBs. |
| Open HNB UEs | The total number of User Equipment devices registered with this HNB-GW service through Open HNBs. |
| UEs with IuPS connection | This group displays the total number of User Equipment devices that have established a connection with the Packet Switched network through Closed, Hybrid, and Open HNBs. |
| Closed HNB UEs | The total number of User Equipment devices that have established a connection with the Packet Switched network through Closed HNBs. |
| Hybrid HNB UEs | The total number of User Equipment devices that have established a connection with the Packet Switched network through Hybrid HNBs. |
| Open HNB UEs | The total number of User Equipment devices that have established a connection with the Packet Switched network through Open HNBs. |
| UEs with IuCS connection | This group displays the total number of User Equipment devices that have established a connection with the Circuit Switched network through Closed, Hybrid, and Open HNBs. |
| Closed HNB UEs | The total number of User Equipment devices that have established a connection with the Circuit Switched network through Closed HNBs. |
| Hybrid HNB UEs | The total number of User Equipment devices that have established a connection with the Circuit Switched network through Hybrid HNBs. |
| Open HNB UEs | The total number of User Equipment devices that have established a connection with the Circuit Switched network through Open HNBs. |

| Field | Description |
|-----------------------------------|---|
| UEs with IuPS and IuCS connection | This group displays the total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Closed, Hybrid, and Open HNBs. |
| Closed HNB UEs | The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Closed HNBs. |
| Hybrid HNB UEs | The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Hybrid HNBs. |
| Open HNB UEs | The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Open HNBs. |
| Idle UEs | This group displays the total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Closed, Hybrid, and Open HNBs.. |
| Closed HNB UEs | The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Closed HNBs. |
| Hybrid HNB UEs | The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Hybrid HNBs. |
| Open HNB UEs | The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Open HNBs. |
| PS Rab connections | This group displays the total number of RAB connections established with PS network through Closed, Hybrid, and Open HNBs. |
| Closed HNB PS Rabs | The total number of RABs connections established in PS CN through through Closed HNBs. |
| Hybrid HNB PS Rabs | The total number of RABs connections established in PS CN through through Hybrid HNBs. |
| Open HNB PS Rabs | The total number of RABs connections established in PS CN through through Open HNBs. |
| CS Rab connections | This group displays the total number of RAB connections established with CS network through Closed, Hybrid, and Open HNBs. |
| Closed HNB PS Rabs | The total number of RABs connections established in CS CN through through Closed HNBs. |
| Hybrid HNB PS Rabs | The total number of RABs connections established in CS CN through through Hybrid HNBs. |

| Field | Description |
|------------------|--|
| Open HNB PS Rabs | The total number of RABs connections established in CS CN through through Open HNBs. |

show hnbgw counters hnbgw-service

Table 315: show hnbgw counters hnbgw-service Command Output Descriptions

| Field | Description |
|---|---|
| HNBGW Service | The name that identifies this HNB-GW service. |
| Number of registered HNBs | The total number of HNB devices (Open and Closed) registered with this HNB-GW service. |
| Number of registered Open HNBs | The total number of Open HNB devices registered with this HNB-GW service. |
| Number of registered Closed HNBs | The total number of Closed HNB devices registered with this HNB-GW service. |
| Number of registered UEs | The total number of User Equipment devices registered with this HNB-GW service through open and closed HNBs. |
| Number of UEs registered from Open HNBs | The total number of User Equipment devices registered with this HNB-GW service through open HNBs. |
| Number of UEs registered from Closed HNBs | The total number of User Equipment devices registered with this HNB-GW service through closed HNBs. |
| Number of UEs with IuPS connection | The total number of User Equipment devices that have a Packet Switched network connection to a SGSN via this HNB-GW service. |
| Number of UEs with IuCS connection | The total number of User Equipment devices that have established a Circuit Switched network connection to a MSC via this HNB-GW service. |
| Number of UEs with IuPS and IuCS connection | The total number of User Equipment devices that have established Packet Switched (SGSN) and Circuit Switched (MSC) network connections via this HNB-GW service. |
| Number of Idle UEs | The total number of User Equipment devices that do not have an active connection to a Packet Switched (SGSN) or Circuit Switched (MSC) network. |

show hnbgw counters hnbid

Table 316: show hnbgw counters hnbid Command Output Descriptions

| Field | Description |
|---|--|
| HNB Id | The HNB device ID sent to the HNB-GW during registration. |
| Number of registered UEs | The number of User Equipment devices that have registered with this HNB. |
| Number of UEs with IuPS connection | The number of User Equipment devices that have established a connection to a SGSN via the Packet Switched network. |
| Number of UEs with IuCS connection | The number of User Equipment devices that have established a connection to a MSC via the Circuit Switched network. |
| Number of UEs with IuPS and IuCS connection | The number of User Equipment devices that have established connections to an MSC via the Circuit Switched interface and an SGSN via the Packet Switched network. |
| Number of Idle UEs | The number of User Equipment devices that do not have an active connection to Packet Switched (SGSN) or Circuit Switched (MSC) networks. |

show hnbgw disconnect-reasons

Table 317: show hnbgw disconnect-reasons Command Output Descriptions

| Field | Description |
|--|--|
| HNB | This group displays the detailed disconnect reasons at the HNB-GW for particular HNB. |
| HNB Re-Registered over same SCTP Association | Total number of HNBs disconnected on HNB-GW as HNB tried to re-registration over same SCTP association between HNB and HNB-GW. |
| Duplicate HNB Registration | Total number of HNBs disconnected on HNB-GW as duplicate registration was tried for same HNB. |
| Admin Disconnect | Total number of HNBs disconnected on a HNB-GW due to administrative decision like removal of service, subscriber or result of clearing subscriber session through Exec mode. |
| Miscellaneous | Total number of HNBs disconnected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| HNB Terminated SCTP Association | Total number of HNBs disconnected on a HNB-GW as HNB terminated the SCTP association with HNB-GW. |

| Field | Description |
|------------------------------------|---|
| SCTP Idle Timeout | Total number of HNBs disconnected on a HNB-GW as HNB was idle for long time and timer for SCTP idle duration triggered the termination after timeout duration expired. |
| Access Accept Message had issue | Total number of HNBs disconnected on a HNB-GW due to some error in Access Accept message format or missing value or parameters. |
| Access Reject | Total number of HNBs disconnected on a HNB-GW as HNB access was rejected by HNB-GW. |
| Unauthorised Location | Total number of HNB registration requests rejected on an HNB-GW due to mismatch of Macro LAC configured on the HNB-GW. |
| Open Access Mode disabled | Total number of HNBs disconnected on a HNB-GW as AAA server has sent the Access Accept message with access mode for particular HNB as 2 but Open Access Mode is disabled on HNB-GW. |
| Hybrid Access Mode disabled | Total number of HNBs disconnected on a HNB-GW as HNB requesting registration is of Hybrid mode but Hybrid Access Mode is disabled on HNB-GW. |
| Configuration Issue | Total number of HNBs disconnected on a HNB-GW due to some error or misconfiguration found in configuration on HNB or on HNB-GW for particular HNB. |
| Deregister from HNB | Total number of HNBs disconnected on a HNB-GW as HNB sent de-registration request to HNB-GW. |
| Deregister Radius DM | Total number of HNBs disconnected on a HNB-GW as AAA server sent the Disconnect message to deregister the HNB with HNB-GW. |
| Cleared due to SCTP timeouts | Total number of HNBs disconnected on a HNB-GW as timer for SCTP idle duration triggered the clearing of session after timeout duration expired. |
| Access mode mismatch | Total number of HNBs disconnected on a HNB-GW as there is mismatch in value sent by AAA server in Access-Accept message for access mode and configuration allowed on HNB-GW. |
| UE | This group displays the detailed disconnect reasons at the HNB-GW for particular UE. |
| Duplicate UE Registration | Total number of UEs disconnected on HNB-GW as duplicate registration was tried for same UE. |
| UE Relocated to another HNB | Total number of UEs disconnected on a HNB-GW as same UE relocated to another HNB. |
| UE Register Reject - Miscellaneous | Total number of UEs registration rejected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table. |

| Field | Description |
|---|--|
| UE Deregister from HNB | Total number of UEs disconnected on a HNB-GW as UE deregisters it self from associated HNB. |
| RUA Connect after COA | Total number of UEs disconnected on a HNB-GW as RANAP User Adaptation connected after Change of Authorization from AAA server. |
| HNB Removed | Total number of UEs disconnected on a HNB-GW as particular associated HNB is removed from HNB-GW. |
| UE Idle time out | Total number of UEs disconnected on a HNB-GW as UE was idle for long time and timer for idle duration triggered the termination after timeout duration expired. |
| Auth Failure - UE Register Rejected | Total number of UEs disconnected on a HNB-GW as AAA server has sent the Authentication Failure and UE registration is rejected. |
| UE Reg reject - Max UEs per Open HNB Limit | Total number of UEs disconnected on a HNB-GW as number of UEs connected through an Open HNB exceeds the limit of maximum UEs allowed for particular Open HNB on HNB-GW in Open Access mode. |
| UE Reg rej - Max non-access-ctrl UEs per Hybrid HNB | Total number of UEs disconnected on a HNB-GW as number of non-access type UEs connected through a Hybrid HNB exceeds the limit of maximum UEs allowed for particular Hybrid HNB on HNB-GW in Hybrid Access mode. |
| Miscellaneous | Total number of UEs disconnected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| Stale UE Session cleared on Relocation arrival | Total number of stale UEs sessions cleared on a HNB-GW due to relocation arrival with particular HNB. |
| IuCS | This group displays the detailed disconnect reasons at the HNB-GW for particular IuCS connection. |
| UE Deregistered | Total number of IuCS association disconnected on HNB-GW as de-registration procedure was initiated for UE. |
| Miscellaneous | Total number of IuCS association disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| Relocation Failure from HNB | Total number of IuCS association disconnected due to relocation failure message received from HNB. |
| Connect over Connect | Total number of IuCS association disconnected on a HNB-GW as same connection tried over the same association. |
| RUA Disconnect | Total number of IuCS association disconnected on a HNB-GW due to RANAP User Adaptation disconnected. |
| SCCP Released | Total number of IuCS association disconnected on a HNB-GW as SCCP association is release between HNB-GW and associated CN. |

| Field | Description |
|-----------------------------|--|
| HNB Reset | Total number of IuCS association disconnected on a HNB-GW due to trigger of RESET procedure from HNB. |
| Admin Disconnect | Total number of IuCS disconnected on a HNB-GW due to administrative decision like removal of service, subscriber or result of clearing subscriber session through Exec mode. |
| Iar Expiry | Total number of IuCS disconnected on a HNB-GW due to expiry of Iar timer. |
| Common-ID IMSI check failed | Total number of IuCS disconnected on a HNB-GW due to failure in IMSI and common id check of UE. |
| MSC Reset/Unreachable | Total number of IuCS association disconnected on a HNB-GW due to trigger of RESET procedure from MSC or MSC is not reachable in CN. |
| IuPS | This group displays the detailed disconnect reasons at the HNB-GW for particular IuPS connection. |
| UE Deregistered | Total number of IuPS association disconnected on HNB-GW as de-registration procedure was initiated for UE. |
| Miscellaneous | Total number of IuPS association disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| Relocation Failure from HNB | Total number of IuPS association disconnected due to relocation failure message received from HNB. |
| Connect over Connect | Total number of IuPS association disconnected on a HNB-GW as same connection tried over the same association. |
| RUA Disconnect | Total number of IuPS association disconnected on a HNB-GW due to RANAP User Adaptation disconnected. |
| SCCP Released | Total number of IuPS association disconnected on a HNB-GW as SCCP association is release between HNB-GW and associated CN. |
| HNB Reset | Total number of IuPS association disconnected on a HNB-GW due to trigger of RESET procedure from HNB. |
| Admin Disconnect | Total number of IuPS disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode. |
| Iar Expiry | Total number of IuPS disconnected on a HNB-GW due to expiry of Iar timer. |
| Common-ID IMSI check failed | Total number of IuPS disconnected on a HNB-GW due to failure in IMSI and common id check of UE. |

| Field | Description |
|---|---|
| SGSN Reset/Unreachable | Total number of IuPS association disconnected on a HNB-GW due to trigger of RESET procedure from SGSN or SGSN is not reachable in CN. |
| GTPU Path Failure towards HNB | Total number of IuPS association disconnected on a HNB-GW due to failure of GTP-U path towards HNB. |
| CS-RAB | This group displays the detailed disconnect reasons at the HNB-GW for particular RAB in CS domain. |
| Issue in RAB Asst Req Message | Total number of RABs disconnected on HNB-GW due to issue in RAB AssignmentRequest message from MSC to HNB-GW. |
| Issue in Reloc Req Message | Total number of RABs disconnected on HNB-GW due to issue in RAB RelocationRequest message. |
| Config Issue | Total number of RABs disconnected on a HNB-GW due to some error or misconfiguration found in configuration in CS domain or on HNB-GW for particular CN. |
| AAL2 Channel Establish failure | Total number of RABs disconnected on a HNB-GW due to failure in AAL2 channel establishment between MSC and HNB-GW in particular CS domain. |
| Issue in RAB Assgt Resp Message | Total number of RABs disconnected on a HNB-GW due to issues in RAB Assignment Response message from HNB-GW to MSC in particular CS domain. |
| HNB Failed RAB in RAB Assgt Resp Message | Total number of RABs disconnected on a HNB-GW as RAB establishment failed between HNB and HNB-GW and response received in RAB Assignment Response message from HNB-GW to MSC in particular CS domain. |
| HNB Failed RAB in Reloc Request Ack Message | Total number of RABs disconnected on a HNB-GW as RAB Relocation failed between HNB and HNB-GW and response received in RAB Relocation Request Ack message from HNB-GW to MSC in particular CS domain. |
| Issue in Reloc Req Ack Message | Total number of RABs disconnected on a HNB-GW due to issues in RAB Relocation Request Ack message from HNB-GW to MSC in particular CS domain. |
| CN Initiated RAB Release | Total number of RABs disconnected on a HNB-GW as CN node (MSC) initiated the RAB release procedure in particular CS domain. |
| RAB Assignment Timer Expiry | Total number of RABs disconnected on a HNB-GW due to expiry of RAB Assignment timer duration. |
| RAB Release Timer Expiry | Total number of RABs disconnected on a HNB-GW due to expiry of RAB Release Timer duration. |
| AAL2 Connection Released | Total number of RABs disconnected on a HNB-GW due to release of AAL2 connections. |

| Field | Description |
|---|--|
| IU went down | Total number of RABs disconnected on a HNB-GW due failure of IuCS interface. |
| Admin Disconnect | Total number of RABs disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode. |
| Dropped - RAB Assgt Req Decoding failed | Total number of RABs disconnected on a HNB-GW due to failure in decoding of RAB Assignment Request message from HNB-GW to MSC in particular CS domain. |
| Miscellaneous | Total number of RABs disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| PS-RAB | This group displays the detailed disconnect reasons at the HNB-GW for particular RAB in PS domain. |
| Issue in RAB Asst Req Message | Total number of RABs disconnected on HNB-GW due to issue in RAB AssignmentRequest message from SGSN to HNB-GW. |
| Issue in Reloc Req Message | Total number of RABs disconnected on HNB-GW due to issue in RAB RelocationRequest message. |
| Config Issue | Total number of RABs disconnected on a HNB-GW due to some error or misconfiguration found in configuration in PS domain or on HNB-GW for particular CN. |
| Issue in RAB Assgt Resp Message | Total number of RABs disconnected on a HNB-GW due to issues in RAB Assignment Response message from HNB-GW to SGSN in particular PS domain. |
| HNB Failed the RAB in RAB Assgt Resp Message | Total number of RABs disconnected on a HNB-GW as RAB establishment failed between HNB and HNB-GW and response received in RAB Assignment Response message from HNB-GW to SGSN in particular PS domain. |
| HNB Failed the RAB in Reloc Request Ack Message | Total number of RABs disconnected on a HNB-GW as RAB Relocation failed between HNB and HNB-GW and response received in RAB Relocation Request Ack message from HNB-GW to SGSN in particular PS domain. |
| Issue in Reloc Req Ack Message | Total number of RABs disconnected on a HNB-GW due to issues in RAB Relocation Request Ack message from HNB-GW to SGSN in particular PS domain. |
| CN Initiated RAB Release | Total number of RABs disconnected on a HNB-GW as CN node (SGSN) initiated the RAB release procedure in particular PS domain. |
| RAB Assignment Timer Expiry | Total number of RABs disconnected on a HNB-GW due to expiry of RAB Assignment timer duration. |

| Field | Description |
|---|--|
| IU went down | Total number of RABs disconnected on a HNB-GW due failure of IuPS interface. |
| Admin Disconnect | Total number of RABs disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode. |
| Dropped - RAB Assgt Req Decoding failed | Total number of RABs disconnected on a HNB-GW due to failure in decoding of RAB Assignment Request message from HNB-GW to SGSN in particular PS domain. |
| Miscellaneous | Total number of RABs disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table. |
| GTPU CN Error Indication | Total number of RABs disconnected on a HNB-GW and CN due to CN Error Indication in GTP-U message. |
| GTPU CN Path Failure | Total number of RABs disconnected on a HNB-GW and CN due to CN Path Failure in GTP-U message. |
| GTPU HNB Error Indication | Total number of RABs disconnected on a HNB-GW and CN due to HNB Error Indication GTP-U message. |
| GTPU HNB Path Failure | Total number of RABs disconnected on a HNB-GW and CN due to HNB Path Failure in GTP-U message. |

show hnbgw-global

Table 318: show hnbgw-global Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| NNSF TIMER for Paging in IuFlex | Indicates the duration set in seconds for NAS Node Selection Function (NNSF) timer (T-NNSF) which is used by the HNB-GW to store the IMSI and the relevant <i>CN Global-ID</i> in the short term after Paging. This timer is used for IuFlex feature support. Default timer value is 30 seconds. |
| IMSI Purge Timeout | Indicates the timeout duration set in minutes for to store the IMSI and the relevant information after which IMSI information will be purged from HNB-GW db. This timer is used for IuFlex feature support. Default timeout value is 1440 minutes. |
| SCTP ALPHA-RTO | The retransmission timeout attempt set for initial phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 5 attempts. |

| Field | Description |
|-----------------------------------|---|
| SCTP BETA-RTO | The retransmission timeout attempt set for second phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10 attempts. |
| SCTP MAX-RETX-INIT | Indicates the maximum number of SCTP INIT messages retransmitted for SCTP communication between HNB and HNB-GW. |
| SCTP MAX-RETX-PATH | Indicates the maximum number of SCTP PATH messages retransmitted for SCTP communication between HNB and HNB-GW. |
| SCTP MAX-RETX-ASSOC | Indicates the maximum number of SCTP ASSOC messages retransmitted for SCTP communication between HNB and HNB-GW. |
| SCTP MAX-IN-STRMS | Indicates the maximum number of incoming SCTP streams allowed on HNB-GW for SCTP communication between HNB and HNB-GW |
| SCTP MAX-OUT-STRMS | Indicates the maximum number of outgoing SCTP streams allowed from HNB-GW for SCTP communication between HNB and HNB-GW Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| Paging Optimization Policy | Displays configuration of the Paging Optimization policy for Open Access support on an HNB-GW service instance. |
| Page Open HNBS | Indicates the status of paging optimization configuration for open HNBS, with and without paging-area, in an HNB-GW service instance. Possible configuration is: <ul style="list-style-type: none"> • Always • Never |
| Page Open HNB Where UE Registered | Indicates the status of paging optimization configuration for open HNBS, with and without paging-area, and UEs registered in an HNB-GW service instance. Possible settings are: <ul style="list-style-type: none"> • Disabled • Enabled |

show hnbgw-service

Table 319: show hnbgw-service all Command Output Descriptions

| Field | Description |
|----------------------|--|
| Service name | The name used to identify the HNB-GW service to the system. |
| Context name | The name of the system context in which the HNB-GW service is defined. |
| SCTP IP Address | The IP address used to transmit SCTP messages from HNBs to the HNB-GW. |
| SCTP Port | The HNB-GW uses this port to listen for SCTP messages from HNBs. |
| GTP-U Service | The defined GTP-U service name(s) associated with the HNB-GW service in a Packet Switched network instance. The GTP-U service(s) are used for GTP-U tunneling towards the HNB-GW access network. |
| CBS Service | The defined CBS service name(s) associated with the HNB-GW service. Cell broadcasting services are used for simultaneous delivery of messages to multiple users in a specified area, primarily for emergencies and alerting services. |
| RTP MUX | Indicates if RTP multiplexing is enabled or disabled. If enabled, multiple subscriber voice packets can be multiplexed and sent as one RTP packet towards the HNB-GW. This is explicitly negotiated between the HNB and the HNB-GW during HNB Registration. |
| RTP MUX Port | This is the RTP multiplexing port number used for used in the binding-id in the RAB request sent to the HNB by the HNB-GW during voice call setup. The HNB will send RTP data (packetized voice) to this MUX port number. |
| RTP Pool | This is the IP pool used to allocate IP address to subscriber in the RAB request by the HNB-GW as the transport layer endpoint. The HNB will send RTP data (packetized voice) to IP address allocated from this pool. |
| RTCP report interval | Indicates if the RTCP (Real time Transport Control Protocol) report interval is enabled or not. RTCP enables the receiver to detect if there is any packet loss and to compensate for any delay jitter. RTP and RTCP protocols work independently of the underlying Transport layer and Network layer protocols. |

| Field | Description |
|-------------------------------------|---|
| HNBGW Initiated Ranap Reset | <p>Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled.</p> <p>Important From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.</p> |
| Ranap Reset Ack Timer | <p>The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the SGSN or MSC after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled.</p> <p>Important From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.</p> |
| Ranap Reset Maximum Retransmissions | <p>Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the SGSN or MSC if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled.</p> <p>Important From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.</p> |
| Ranap Reset Guard Timer | <p>The timer that the HNB-GW starts after receiving a RESET message from the core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives.</p> <p>Important From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.</p> |
| SCTP HEARTBEAT Timeout | <p>The timeout duration set in milliseconds for SCTP heartbeat transmission between HNB and HNB-GW. Default value is 3000 milliseconds. After this duration retransmission will start.</p> |
| SCTP RTO-MIN Timeout | <p>The minimum retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 1000 milliseconds.</p> |
| SCTP RTO-MAX Timeout | <p>The maximum retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10000 milliseconds.</p> |
| SCTP RTO-INITIAL Timeout | <p>The initial retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10000 milliseconds.</p> |

| Field | Description |
|---------------------|--|
| SCTP ALPHA-RTO | The retransmission timeout attempt set for initial phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 5 attempts. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP BETA-RTO | The retransmission timeout attempt set for second phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10 attempts. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP CHECKSUM-TYPE | Indicates the checksum type set for SCTP communication between HNB and HNB-GW. Default checksum type is CRC32 . |
| SCTP COOKIE-LIFE | Indicates the life duration set for SCTP Cookies for SCTP communication between HNB and HNB-GW. Default value is 60000 msec. |
| SCTP MAX-RETX-INIT | Indicates the maximum number of SCTP INIT messages retransmitted for SCTP communication between HNB and HNB-GW. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP MAX-RETX-PATH | Indicates the maximum number of SCTP PATH messages retransmitted for SCTP communication between HNB and HNB-GW. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP MAX-RETX-ASSOC | Indicates the maximum number of SCTP ASSOC messages retransmitted for SCTP communication between HNB and HNB-GW. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP MTU-SIZE-MIN | Indicates the minimum transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 508 bytes. |
| SCTP MTU-SIZE-MAX | Indicates the minimum transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 1500 bytes. |

| Field | Description |
|---------------------------------|---|
| SCTP MTU-SIZE-INITIAL | Indicates the initial transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 508 bytes. |
| SCTP SACK-FREQUENCY | Indicates the frequency of set for Selective Acknowledgement (SACK) messages for SCTP communication between HNB and HNB-GW |
| SCTP SACK-PERIOD | Indicates the Selective Acknowledgement (SACK) period between two SACK messages set for SCTP communication between HNB and HNB-GW |
| SCTP MAX-IN-STRMS | Indicates the maximum number of incoming SCTP streams allowed on HNB-GW for SCTP communication between HNB and HNB-GW Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP MAX-OUT-STRMS | Indicates the maximum number of outgoing SCTP streams allowed from HNB-GW for SCTP communication between HNB and HNB-GW Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| SCTP Connection Timeout | Indicates the timeout duration set for SCTP communication between HNB and HNB-GW after which reconnection procedure will start. Default value is 10 secs. |
| UE Registration Timeout | Indicates the timeout duration set for UE registration between UE and HNB-GW after which re-registration procedure will start. Default value is 120 secs. |
| NNSF TIMER for Paging in IuFlex | Indicates the duration set in seconds for NAS Node Selection Function (NNSF) timer (T-NNSF) which is used by the HNB-GW to store the IMSI and the relevant <i>CN Global-ID</i> in the short term after Paging. This timer is used for IuFlex feature support. Default timer value is 30 seconds. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |
| IMSI Purge Timeout | Indicates the timeout duration set in minutes for to store the IMSI and the relevant information after which IMSI information will be purged from HNB-GW db. This timer is used for IuFlex feature support. Default timeout value is 1440 minutes. Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs. |

| Field | Description |
|-----------------------------------|---|
| Incoming handover for CS domain | Indicates the status of incoming handover permission/restriction set in HNB-GW service instance for incoming handover of an MS via SRNS Relocation procedure for CS core network domain. Possible values are: <ul style="list-style-type: none"> • Disabled • Enabled |
| Incoming handover for PS domain | Indicates the status of incoming handover permission/restriction set in HNB-GW service instance for incoming handover of an MS via SRNS Relocation procedure for PS core network domain. Possible values are: <ul style="list-style-type: none"> • Disabled • Enabled |
| HNB Access-Mode mismatch handling | Access mode received in HNB Reg request and access mode received in access accept can be different. If there is mismatch based on this flag, HNB is rejected or accepted with access mode received from AAA. ♦ |
| HNB-id Leading Character Discard | |
| Open HNB Support | Indicates the status of Open Access support on an HNB-GW service instance. Possible values are: <ul style="list-style-type: none"> • Disabled • Enabled |
| Maximum UEs Allowed Per Open HNB | Indicates the total number of UEs allowed to register through an open HNB when Open Access support is enabled on an HNB-GW service instance. Possible range is between 1 through 32 where default value is 16. |
| Paging Optimization Policy | Displays configuration of the Paging Optimization policy for Open Access support on an HNB-GW service instance. <p>Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.</p> |
| Page Open HNBs | Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, in an HNB-GW service instance. Possible configuration is: <ul style="list-style-type: none"> • Always • Never <p>Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.</p> |

| Field | Description |
|--|---|
| Page Open HNB Where UE Registered | <p>Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, and UEs registered in an HNB-GW service instance. Possible settings are:</p> <ul style="list-style-type: none"> • Disabled • Enabled <p>Important From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.</p> |
| Hybrid HNB support | <p>Indicates the status of Hybrid Access support on an HNB-GW service instance. Possible values are:</p> <ul style="list-style-type: none"> • Disabled • Enabled |
| Maximum non-access-controlled UEs allowed per Hybrid HNB | <p>Indicates the total number of non access controlled UEs allowed to register through a hybrid HNB on an HNB-GW service instance. Maximum allowed number is 1000.</p> |
| Available Radio Network PLMN | <p>The Public Land Mobile Network ID configured for this HNB-GW service. It consists of the MCC and MNC (see below).</p> |
| MCC | <p>The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID.</p> |
| MNC | <p>The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID.</p> |
| RNC-Id | <p>The Radio Network Controller ID provided to HNBs for use by the core network for this HNB-GW service. It is configured under the PLMN-ID.</p> |
| Macro Coverage IE Absent Action | <p>The action, accept or reject, to be taken if macro coverage information IE is absent in HNB location information.</p> |
| Authorised Macro LAI | <p>The information pertaining to following parameters for macro LAC authorization:</p> <ul style="list-style-type: none"> • MCC • MNC • LAC Range |
| Lac | <p>The defined Location Area Identifier provided to HNBs during registration with this HNB-GW service. The LAC signifies which location area this HNB-GW service belongs to, and is configured under the PLMN-ID.</p> <p>Important From StarOS 14.0 onward, this counter is deprecated.</p> |

| Field | Description |
|--|---|
| Rac | The Routing Area Identifier provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNB-GW service belongs to and is configured under the PLMN-ID Important From StarOS 14.0 onward, this counter is deprecated. |
| PS Network Name | The PS-network to be used for selecting the packet-switched core-network (i.e., SGSN) and its point-code. Important From StarOS 14.0 onward, this counter is deprecated. |
| CS Network Name | The CS-network to be used for selecting circuit-switched core-network (i.e., MSC) and its point-code. Important From StarOS 14.0 onward, this counter is deprecated. |
| Service Status | The current operating status of this HNB-GW service. If the status does not read 'enabled' HNB-GW functionality is not available. |
| Security GW service Address | The IP address of the HNB-Security Gateway associated with this HNB-GW service. Security Gateway configurations are used when the IPsec GW is co-located with the HNB-GW service on the chassis. If the services are co-located, the SeGW IP address will be used as the IPsec tunnel endpoint by HNBs. |
| Security Gateway Context | Specifies the context name in which Security Gateway service is configured. |
| Crypto-template | Specifies the Crypto-Map template being used by the HNB-GW service for secure IPsec IKEv2 tunneling for the configured Iuh (HNB to HNB-GW) interface. The Crypto-Map template is used only if the HNB-GW and SeGW are co-located on the chassis. |
| Service in IPsec | Specifies whether specific HNB-GW service is started in secure IPsec IKEv2 tunneling for the configured Iuh (HNB to HNB-GW) interface. |
| Newcall Policy | Indicates the policy for action on new calls coming on this HNB-GW service instance. Possible actions are: <ul style="list-style-type: none"> • Accept • Reject |
| Paging | |
| CS Domain: Handle unknown IMSI | Indicates that the configuration for "Handle unknown IMSI" has been provided or not in the Paging Manager in CS domain. |
| CS Domain: Page last known HNB timeout | Indicates the timeout configured for paging the last know HNB in the CS doamin. Default timeout value for CS domain is 3 seconds. |

| Field | Description |
|--|---|
| CS Domain: Fanout Paging timeout | Indicates the timeout configured for fanout paging in CS doamin. Default timeout value for CS doamin is 5 seconds. |
| PS Domain: Handle unknown IMSI | Indicates that the configuration for "Handle unknown IMSI" has been provided or not in the Paging Manager in PS domain. |
| PS Domain: Page last known HNB timeout | Indicates the timeout configured for paging the last know HNB in the PS doamin. Default timeout value for CS domain is 6 seconds |
| PS Domain: Fanout Paging timeout | Indicates the timeout configured for fanout paging in CS doamin. Default timeout value for CS doamin is 10 seconds. |
| IP QoS DSCP marking | This group indicates the DSCP marking used for egress traffic for various protocols used on IuH and Iu interface in a HNB-GW service instance. |
| Traffic egress on Iuh | Indicates the DSCP marking used for egress traffic for various protocols used on IuH interface in a HNB-GW service instance. |
| Traffic egress on Iu | Indicates the DSCP marking used for egress traffic towards CN for various protocols used on Iu-CS/Iu-PS interface in a HNB-GW service instance. |

show hnbgw sessions all

Table 320: show hnbgw sessions all Command Output Descriptions

| Field | Description |
|---|---|
| vvvv | <p>Displays service and session state information. This column displays a code consisting of six characters.</p> <p>From left-to-right, the first character represents the Access Technology that the subscriber is using. The possible access technologies are:</p> <ul style="list-style-type: none"> • F: FEMTO UTRAN • .: Other/Unknown <p>From left-to-right, the second character represents the Session Type. The possible HNB Session types are:</p> <ul style="list-style-type: none"> • H: HNB • U: UE <p>From left-to-right, the third character represents the HNB State. The possible HNB states are:</p> <ul style="list-style-type: none"> • R: Registered • D: Deregistered • I: Idle • d: Disconnecting • u: Unknown <p>From left-to-right, the fourth character represents the session Network Type. The possible network types are:</p> <ul style="list-style-type: none"> • I: IP • S: IPSEC • u: Unknown |
| HNBBID | The HNB identification (HNBBID) number used for this session. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |
| Total subscribers matching specified criteria | The total number of subscribers using HNB sessions. |

show hnbgw sessions full

Table 321: show hnbgw sessions full Command Output Descriptions

| Field | Description |
|------------------|---|
| | This is the first row which indicates the name of the HNB(s) registered for this HNB-GW session. |
| Card/Cpu | Indicates the card and CPU ID used for this session. |
| Sessmgr Instance | The session manager instances for this HNB-GW session used. |
| Access Tech | Indicates the accessing technology. Possible access technologies are: <ul style="list-style-type: none"> • F: FEMTO UTRAN • .: Other/Unknown |
| Network Type | Indicates the network service used for the subscriber session. The possible network types are: <ul style="list-style-type: none"> • I: IP • S: IPSEC • u: Unknown |
| Status | Indicates the session status. Possible HNB status are: <ul style="list-style-type: none"> • Online/Active • Offline/Inactive |
| Access Type | Indicates the session type for this subscriber. The possible access types are: <ul style="list-style-type: none"> • hnbgw • Unknown |
| HNB Id | The HNB identification (HNBID) number used for this session in Femto UTRAN network. |
| state | Indicates the state of the HNBs. Possible HNB states are: <ul style="list-style-type: none"> • Registered • Deregistered |
| Service Name | Indicates the name of the HNB-GW service which is used by this session instance to display the information. |

| Field | Description |
|-------------------|---|
| HNB Local Id | The HNB identification (HNBID) number used locally for this session on HNB-GW. |
| HNB IP address | Indicates the primary IP address of the HNB in the session. In HNB-GW session this is the primary IP address of Femto CPE. |
| idle time | The time period that the subscriber session has been idle, either in an active or dormant state. |
| source context | The name of a configured source context from which the subscriber initiates a session. |
| callid | Indicates the identity number of call used by this instance of HNB-GW service. |
| PLMN-ID | The Public Land Mobile Network ID configured for this HNB-GW service. It consists of the MCC and MNC. |
| LAC | The defined Location Area Identifier provided to HNBs during registration with this HNB-GW service. The LAC signifies which location area this HNB-GW service belongs to, and is configured under the PLMN-ID. |
| RAC | The Routing Area Identifier provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNB-GW service belongs to and is configured under the PLMN-ID |
| RNC-ID | Indicates the Radio Network Controller ID provided to HNBs for use by the core network for this HNB-GW service. It is configured under the PLMN-ID |
| Cell ID | The cell identifier provided to HNBs during registration with this HNB-GW service. The cell id signifies the geographical location of HNB-GW session user belongs to. |
| Service Area Code | This identify a SA (Service Area) within a LA (Location Area) used during this HNB-GW session. |
| Access Mode | <p>Indicates the access mode used by HNBs for this HNB-GW session.</p> <p>Possible access modes are:</p> <ul style="list-style-type: none"> • Closed: Indicates that HNB is connected to HNB-GW using Closed Access mode in this session. • Hybrid: Indicates that HNB is connected to HNB-GW using Hybrid Access mode in this session. • Open: Indicates that HNB is connected to HNB-GW using Open Access mode in this session. <p>This counter is applicable for HNB access mode.</p> |

| Field | Description |
|----------------------|--|
| IMSI White List | This group displays the White List IMSI database on HNB-GW. |
| IMSI # | Indicates the IMSI number entered in White List and have clear access to HNB-GW. |
| Registered IMSI List | This group displays the list of IMSIs registered on HNB-GW. This group is not supported in StarOs 14.0 and onward. |
| IMSI # | Indicates the IMSI number which is currently registered with HNB-GW service session instance. |
| Context Id | Indicates the identity number of the context used by specific IMSI. |
| Registration | Indicates the status of registration of IMSI on HNB-GW. |
| IuPS connection | Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW. |
| Sessmgr Instance | Indicates the SessManager instance used by specific IMSI for Iu-PS or Iu-CS connection. |
| callid | Indicates the identity number of call used by specific IMSI for Iu-PS or Iu-CS connection on this instance of SessManager. |
| IuCS connection | Indicates the availability of Iu-CS connection for specific registered IMSI on HNB-GW. |
| IuPS connection | Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW. |
| Registered UE List | This group displays the list of IMSIs registered on HNB-GW. This group is supported in StarOs 14.0 and onward. |
| UE # | Indicates the UE identifier which is currently registered with HNB-GW service session instance. |
| IMSI # | Indicates the IMSI number which is currently registered with HNB-GW service session instance. |
| Context Id | Indicates the identity number of the context used by specific IMSI. |
| Registration | Indicates the status of registration of IMSI on HNB-GW. |
| Type | Indicates the type of UE which is registered in this UE list having specific IMSI on HNB-GW. Possible type of UEs are: <ul style="list-style-type: none"> • Access-Controlled • Non-Access Controlled |
| IuCS connection | Indicates the availability of Iu-CS connection for specific registered IMSI on HNB-GW. |

| Field | Description |
|-----------------------|--|
| IuPS connection | Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW. |
| Registered UE Summary | This group displays the summary of Registered UE based on access control type on HNB-GW. |
| Access-Controlled | Indicates the total number of Access-Controlled UEs currently registered with HNB-GW service session instance. |
| Non-Access-Controlled | Indicates the total number of Non-Access-Controlled UEs currently registered with HNB-GW service session instance. |

show hnbgw statistics paging-only

Table 322: show hnbgw statistics paging-only Command Output Descriptions

| Field | Description |
|--|--|
| CS Domain Paging | |
| Total paging RX | Number of total paging messages received in CS domain. |
| Paging for unknown IMSI - Received | Number of paging messages received for unknown IMSI. |
| Paging for unknown IMSI - Handled | Number of paging messages handled for unknown IMSI. |
| Paging for unknown IMSI - Dropped | Number of paging messages dropped for unknown IMSI. |
| Paging for unknown IMSI - Success | Number of successful paging messages for unknown IMSI. |
| Paging for unknown IMSI - Failure | Number of failed paging messages for unknown IMSI. |
| Paging for last-registered-hnb - Attempted | Number of paging messages attempted for last registered HNB. |
| Paging for last-registered-hnb - Success | Number of successful paging messages for last registered HNB. |
| Paging for last-registered-hnb - Failure | Number of failed paging messages for last registered HNB. |
| Paging for last-registered-hnb - Skipped | Number of skipped paging messages for last registered HNB. |
| Paging for last-known-LA - Attempted | Number of attempted paging messages for last known location area.. |
| Paging for last-known-LA - Success | Number of successful paging messages for last known location area. |
| Paging for last-known-LA - Failure | Number of failed paging messages for last known location area. |
| Paging for last-known-LA - Dropped | Number of dropped paging messages for last known location area. |
| PS Doamin Paging | |
| Total paging RX | Number of total paging messages received in PS domain. |
| Paging for unknown IMSI - Received | Number of paging messages received for unknown IMSI. |

| Field | Description |
|--|--|
| Paging for unknown IMSI - Handled | Number of paging messages handled for unknown IMSI. |
| Paging for unknown IMSI - Dropped | Number of paging messages dropped for unknown IMSI. |
| Paging for unknown IMSI - Success | Number of successful paging messages for unknown IMSI. |
| Paging for unknown IMSI - Failure | Number of failed paging messages for unknown IMSI. |
| Paging for last-registered-hnb - Attempted | Number of paging messages attempted for last registered HNB. |
| Paging for last-registered-hnb - Success | Number of successful paging messages for last registered HNB. |
| Paging for last-registered-hnb - Failure | Number of failed paging messages for last registered HNB. |
| Paging for last-registered-hnb - Skipped | Number of skipped paging messages for last registered HNB. |
| Paging for last-known-LA - Attempted | Number of attempted paging messages for last known location area.. |
| Paging for last-known-LA - Success | Number of successful paging messages for last known location area. |
| Paging for last-known-LA - Failure | Number of failed paging messages for last known location area. |
| Paging for last-known-LA - Dropped | Number of dropped paging messages for last known location area. |



CHAPTER 68

show hss-peer-service

This chapter includes the **show hss-peer-service** command output tables.

- [show hss-peer-service service name <name>](#), on page 1325
- [show hss-peer-service session full](#), on page 1327
- [show hss-peer-service statistics all](#), on page 1330

show hss-peer-service service name <name>

Table 323: show hss-peer-service service name <name> Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Service name | The name of the HSS peer service configured and running on the system. |
| Context | The name of the VPN context in which HSS peer service configured and running on the system. |
| Status | Indicates whether the HSS peer service is started or not. |
| Diameter hss-endpoint | The Diameter endpoint name configured in the HSS peer service configuration mode for the S6a HSS interface. |
| Diameter eir-endpoint | The Diameter endpoint name configured in the HSS peer service configuration mode for the S13 EIR interface. |
| Diameter hss-dictionary | The name of Diameter dictionary configured for messaging which is to be used for HSS peer service sessions. |
| Update-Dictionary-AVPs | The release of 3GPP 29.272 that is configured to be used for the HSS peer service, either 3gpp-r10, 3gpp-r9, or N/A if diameter update-dictionary-avps command is not configured. |
| Request timeout | The timeout duration in seconds set for heartbeat checking of Diameter requests with the HSS server. |

show hss-peer-service service name <name>

| Field | Description |
|-------------------------|--|
| Request Auth-vectors | The number of authentication vectors the MME requests in an Authentication-Information-Request (AIR) message to the HSS for each UE requiring authentication. |
| Zone Code format | Displays how the MME is to interpret the zone-code received from the HSS. This field displays the setting, as configured using the zone-code-format command in the HSS Peer Service configuration mode. The possible values are "octet-string" (default) and "ascii-string". |
| Notify-Req-Msg | Displays if the MME is configured to send Notify-Request-Messages to the HSS. Possible values are Enable and Disable. |
| Destination Realm | Displays the configuration of the dynamic-destination-realm HSS Peer Service command. Possible values are "Configured Peer Realm" (default) or "Dynamic Realm". |
| Failure-Handling | This group shows the configuration/settings of failure handling actions on various type of Diameter messages for different type of failure. |
| Message Type | <p>The type of Diameter messages configured for failure handling on specific type of failure or error.</p> <p>The following types of Diameter messages can be configured for failure handling:</p> <ul style="list-style-type: none"> • Authentication-Information-Request • Check-Identity-Request • Notify-Request • Purge-UE-Request • Update-Location-Request |
| Failure Type | <p>The type of message failures to trigger the failure handling actions on specific Diameter messages.</p> <p>The following types of failure can be handled for different types of diameter messages:</p> <ul style="list-style-type: none"> • Diameter Result Code (3000 to 9999) single or a range of code. • Request Timeout |

| Field | Description |
|--------|--|
| Action | <p>The type of action to be taken of a type of failure for specific type of Diameter messages.</p> <p>The following types of action can be configured for different types of diameter message failures:</p> <ul style="list-style-type: none"> • Continue • Retry-and-terminate • Terminate |

show hss-peer-service session full

Table 324: show hss-peer-service session full Command Output Descriptions

| Field | Description |
|---------------------|---|
| HSS | |
| Peer | The HSS peer name. |
| Mode | The mode of the session. |
| Callid | The EPS subscriber's call identity in 8 digit hex number of the connected call to an HSS peer service session. |
| NAI | The network access identifier (NAI) of MME-HSS session on the HSS peer service. |
| MDN | The mobile directory number (MDN) of the MME-HSS session on the HSS peer service. |
| Service Name | The name of HSS peer service for which statistics are displayed. |
| State | The status of MME-HSS session on the HSS peer service. |
| Pending Requests | The status of pending request between the MME and the HSS over the S6a interface during this MME-HSS session on the HSS peer service. |
| API Requests | |
| Open | The number of api sessions opened. |
| Close | The number of api sessions closed. |
| Update Locations | The number of ULR messages initiated by the MME or SGSN application. |

| Field | Description |
|----------------------|---|
| Purge UE | The number of Purge Request messages initiated by the MME or SGSN application. |
| Authenticate | The number of AIR messages initiated by the MME or SGSN application. |
| Notify | The number of Notify Request messages initiated by the MME or SGSN application. |
| Identity Check | The number of MICR messages initiated by the MME or SGSN application. |
| Recoveries | The number of api session recoveries initiated. |
| Micro Checkpoint | Not used. |
| Full Checkpoint | Note used. |
| User Data Query | The number of user data requests sent by the MME or SGSN application. |
| API Successes | |
| Open | The number of api sessions opened successfully. |
| Close | The number of api sessions closed successfully. |
| Update Locations | The number of ULR messages successfully sent by the MME or SGSN application. |
| Purge UE | The number of Purge Request messages successfully sent by the MME or SGSN application. |
| Authenticate | The number of AIR messages successfully sent by the MME or SGSN application. |
| Notify | The number of Notify Request messages successfully sent by the MME or SGSN application. |
| Identity Check | The number of MICR messages successfully sent by the MME or SGSN application. |
| Recoveries | The number of api sessions recovered successfully. |
| Micro Checkpoint | Not used. |
| Full Checkpoint | Not used. |
| User Data Query | Not used. |
| API Errors | |
| Open | The number of api sessions which encountered an error when opened. |

| Field | Description |
|-------------------------|--|
| Close | The number of api sessions which encountered an error when closed. |
| Update Locations | The number of ULR messages that failed to be sent by the MME or SGSN application. |
| Purge UE | The number of Purge Request messages that failed to be sent by the MME or SGSN application. |
| Authenticate | The number of AIR messages that failed to be sent by the MME or SGSN application. |
| Notify | The number of Notify Request messages that failed to be sent by the MME or SGSN application. |
| Identity Check | The number of MICR messages that failed to be sent by the MME or SGSN application. |
| Recoveries | The number of api sessions that failed recovering. |
| Micro Checkpoint | Not used. |
| Full Checkpoint | Not used. |
| User Data Query | The number of user data request that couldn not be processed. |
| Server Requests | |
| Update Locations | The number of ULR messages created at the session level. |
| Purge UE | The number of Purge Request messages created at the session level. |
| Authenticate | The number of AIR messages created at the session level. |
| Notify | The number of Notify Request messages created at the session level. |
| Identity Check | The number of MICR messages created at the session level. |
| User Data Req | Not used. |
| Server Successes | |
| Update Locations | The number of ULR messages successfully sent. |
| Purge UE | The number of Purge Request messages successfully sent. |
| Authenticate | The number of AIR messages successfully sent. |
| Notify | The number of Notify Request messages successfully sent. |
| Identity Check | The number of MICR messages successfully sent. |

| Field | Description |
|----------------------|---|
| User Data Req | Not used. |
| Server Errors | |
| Update Locations | The number of ULR messages which could not be sent. The peer is unavailable, down, or the session could not be opened. |
| Purge UE | The number of Purge Request messages which could not be sent. The peer is unavailable, down, or the session could not be opened. |
| Authenticate | The number of AIR messages which could not be sent. The peer is unavailable, down, or the session could not be opened. |
| Notify | The number of Notify Request messages which could not be sent. The peer is unavailable, down, or the session could not be opened. |
| Identity Check | The number of MICR messages which could not be sent. The peer is unavailable, down, or the session could not be opened. |
| User Data Req | Not used. |

show hss-peer-service statistics all

Table 325: show hss-peer-service statistics all Command Output Descriptions

| Field | Description |
|--|--|
| HSS Statistics for all services | |
| Session Stats | |
| Total Current Sessions | The total number of sessions currently accessing the HSS peer service. |
| Session Failovers | The total number of session failovers occurring on the SS peer service. |
| Total Starts | The total number of sessions started on the HSS peer service. |
| Total Session Updates | The total number of sessions updated on the HSS peer service. |
| Total Terminated | The total number of sessions that were terminated on the HSS peer service. |
| Message Stats | |
| UL Request | The total number of Update Location Request messages sent by the HSS peer service to the HSS. |
| UL Answer | The total number of Update Location Answer messages received by the HSS peer service from the HSS. |

| Field | Description |
|--------------|---|
| ULR Retries | The total number of Update Location Request Retry messages sent by the HSS peer service to the HSS. |
| ULA Timeouts | The total number of Update Location Answer Timeout messages received by the HSS peer service from the HSS. |
| ULA Dropped | The total number of Update Location Answer Dropped messages received by the HSS peer service from the HSS. |
| PU Request | The total number of Purge UE Request messages sent by the HSS peer service to the HSS. |
| PU Answer | The total number of Purge UE Answer messages received by the HSS peer service from the HSS. |
| PUR Retries | The total number of Purge UE Request Retry messages sent by the HSS peer service to the HSS. |
| PUA Timeouts | The total number of Purge UE Answer Timeout messages received by the HSS peer service from the HSS. |
| PUA Dropped | The total number of Purge UE Answer Dropped messages received by the HSS peer service from the HSS. |
| AI Request | The total number of Authentication Information Request messages sent by the HSS peer service to the HSS. |
| AI Answer | The total number of Authentication Information Answer messages received by the HSS peer service from the HSS. |
| AIR Retries | The total number of Authentication Information Request Retry messages sent by the HSS peer service to the HSS. |
| AIA Timeouts | The total number of Authentication Information Answer Timeout messages received by the HSS peer service from the HSS. |
| AIA Dropped | The total number of Authentication Information Answer Dropped messages received by the HSS peer service from the HSS. |
| CL Request | The total number of Cancel Location Request messages sent by the HSS peer service to the HSS. |
| CL Answer | The total number of Cancel Location Answer messages received by the HSS peer service from the HSS. |
| CLR Retries | The total number of Cancel Location Request Retry messages sent by the HSS peer service to the HSS. |
| CLA Timeouts | The total number of Cancel Location Answer Timeout messages received by the HSS peer service from the HSS. |
| CLA Dropped | The total number of Cancel Location Answer Dropped messages received by the HSS peer service from the HSS. |

| Field | Description |
|---------------|--|
| ISD Request | The total number of Insert Subscriber Data Request messages received by the HSS peer service from the HSS. |
| ISD Answer | The total number of Insert Subscriber Data Answer messages sent by the HSS peer service to the HSS. |
| ISDR Retries | The total number of Insert Subscriber Data Request Retry messages received by the HSS peer service from the HSS. |
| ISDA Timeouts | The total number of Insert Subscriber Data Answer Timeout messages sent by the HSS peer service to the HSS. |
| ISDA Dropped | The total number of Insert Subscriber Data Answer Dropped messages sent by the HSS peer service to the HSS. |
| DSD Request | The total number of Delete Subscriber Data Request messages received by the HSS peer service from the HSS. |
| DSD Answer | The total number of Delete Subscriber Data Answer messages sent by the HSS peer service to the HSS. |
| DSDR Retries | The total number of Delete Subscriber Data Request Retry messages received by the HSS peer service from the HSS. |
| DSDA Timeouts | The total number of Delete Subscriber Data Answer Timeout messages sent by the HSS peer service to the HSS. |
| DSDA Dropped | The total number of Delete Subscriber Data Answer Dropped messages sent by the HSS peer service to the HSS. |
| R Request | The total number of Reset Request messages received by the HSS peer service from the HSS. |
| R Answer | The total number of Reset Answer messages sent by the HSS peer service to the HSS. |
| RR Retries | The total number of Reset Request Retry messages received by the HSS peer service from the HSS. |
| RA Timeouts | The total number of Reset Answer Timeout messages sent by the HSS peer service to the HSS. |
| RA Dropped | The total number of Reset Answer Dropped messages sent by the HSS peer service to the HSS. |
| N Request | The total number of Notify Request messages sent by the HSS peer service to the HSS. |
| N Answer | The total number of Notify Answer messages received by the HSS peer service from the HSS. |
| NR Retries | The total number of Notify Request Retry messages sent by the HSS peer service to the HSS. |

| Field | Description |
|----------------------------|--|
| NA Timeouts | The total number of Notify Answer Timeout messages received by the HSS peer service from the HSS. |
| NA Dropped | The total number of Notify Answer Dropped messages received by the HSS peer service from the HSS. |
| MIC Request | The total number of Mobile Identity Check Request messages sent by the HSS peer service to the HSS. |
| MIC Answer | The total number of Mobile Identity Check Answer messages received by the HSS peer service from the HSS. |
| MICR Retries | The total number of Mobile Identity Check Request Retry messages sent by the HSS peer service to the HSS. |
| MICA Timeouts | The total number of Mobile Identity Check Answer Timeout messages received by the HSS peer service from the HSS. |
| MICA Dropped | The total number of Mobile Identity Check Answer Dropped messages received by the HSS peer service to the HSS. |
| Message Error Stats | |
| Unable To Comply | The total number of Update Location Answer messages containing the result code "Unable To Comply" received by the HSS peer service from the HSS. |
| Auth Data Unavailable | The total number of Update Location Answer messages containing the result code "Auth Data Unavailable" received by the HSS peer service from the HSS. |
| User Unknown | The total number of Update Location Answer messages containing the result code "User Unknown" received by the HSS peer service from the HSS. |
| Equipment Unknown | The total number of Update Location Answer messages containing the result code "Equipment Unknown" received by the HSS peer service from the HSS. |
| Unknown EPS Subscription | The total number of Update Location Answer messages containing the result code "Unknown EPS Subscription" received by the HSS peer service from the HSS. |
| RAT Not Allowed | The total number of Update Location Answer messages containing the result code "RAT Not Allowed" received by the HSS peer service from the HSS. |
| Authorization Rejected | The total number of Update Location Answer messages containing the result code "Authorization Rejected" received by the HSS peer service from the HSS. |

| Field | Description |
|--------------------------------|--|
| Roaming Not Allowed | The total number of Update Location Answer messages containing the result code "Roaming Not Allowed" received by the HSS peer service from the HSS. |
| Other Errors | The total number of Update Location Answer messages containing the result code "Other Errors" received by the HSS peer service from the HSS. |
| Subscription-Data Stats | |
| Skip Subscription Data | The Skip Subscription Data statistic is incremented when the ULR is sent with the skip-subscription-data flag set. |
| Subscription-Data Not Received | The Subscription-Data Not Received statistic is incremented if the HSS does not send the subscription data in the ULA when skip-subscription-data flag is set in ULR. The difference between the Skip Subscription Data and Subscription-Data Not Received gives us the number of times HSS does not honour the skip-subscription-data flag. |
| Location Message Stats | |
| Asynchronous ISDR Req | |
| Asynchronous ISDR Dropped | This counter pegs the asynchronous ISD request dropped. |
| Asynchronous ISDA | |
| Aynchronous ISDA Dropped | |
| ISDR Req with Current Location | This statistics is updated when ISDR is received with the Current Location bit set in the IDR flags. |
| ISDA with Cached Location | This statistics is updated when an ISDR is responded with the current location information immediately from the cache, before the location validity timer expires. |



CHAPTER 69

show ims-authorization

This chapter describes the outputs of the **show ims-authorization** command.

- [show ims-authorization policy-control statistics](#), on page 1335
- [show ims-authorization policy-gate status full](#), on page 1347
- [show ims-authorization policy-gate counters all](#), on page 1348
- [show ims-authorization servers](#), on page 1349
- [show ims-authorization service name](#), on page 1350
- [show ims-authorization service name p-cscf all](#), on page 1352
- [show ims-authorization service statistics](#), on page 1353
- [show ims-authorization sessions full all](#), on page 1358

show ims-authorization policy-control statistics

Table 326: show ims-authorization policy-control statistics Command Output Descriptions

| Field | Description |
|---------------------------|--|
| DPCA Session Stats | |
| Total Current Sessions | The total number of DPCA session currently running on this system. |
| Total IMSA Adds | The total number of IP multimedia subsystem applications (IMSA) added to service. |
| Total DPCA Starts | The total number of Diameter Policy Control Applications (DPCAs) started. |
| Total Fallback Sessions | The total number of Diameter Policy Control Application (DPCA) sessions successfully fallback to PCRF after being with local-policy. |
| Total Secondary Create | The total number of secondary contexts created. Important This field is no longer available in 14.0 and later releases. |

| Field | Description |
|---------------------------|--|
| Total Secondary Terminate | The total number of secondary contexts deleted. Important This field is no longer available in 14.0 and later releases. |
| Total Session Updates | The total number of updates applied for session/s. Important This field is not available in 14.0 release. |
| Total Terminated | The total number of Diameter Policy Control Application sessions terminated. |
| DPCA Session Failovers | The total number of Diameter Policy Control Application sessions failed. |
| DPCA Message Stats | |
| Total messages Received | Total policy control messages received for IMS authorization policy control. |
| Total Messages Sent | Total messages sent to IMS authorization policy control server. |
| Total CCR | Total Credit Control Request (CCR) messages received. |
| Total CCA | Total Credit Control Answer (CCA) messages sent in response to CCRs. |
| CCR-Initial | Total number of initial CCR messages received. |
| CCA-Initial | Total number of initial CCA messages sent in response to initial CCR messages. |
| CCA-Initial Accept | Total number of initial CCA messages accepted in response to initial CCR messages. |
| CCA-Initial Reject | Total number of initial CCA messages rejected in response to initial CCR messages. |
| CCA-Initial Dropped | Total number of CCA-I messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode. |
| CCA-Initial Timeouts | Total number of initial CCA messages timed out in response to initial CCR messages. |
| CCR-Update | Total number of Credit Control Request (CCR) messages received after initial CCR for update. |
| CCA-Update | Total Credit Control Answer (CCA) messages sent in response to update CCRs. |
| CCA-Update Timeouts | Total Credit Control Answer (CCA) messages sent in response to update CCRs but timed out. |

| Field | Description |
|------------------------|--|
| CCA-Update Errors | Total number of errors in parsing the CCA-Update Message. |
| CCA-Update Dropped | Total number of CCA-U messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode. |
| CCR-Final | Total number of final CCR messages received to end application. |
| CCA-Final | Total number of final CCA messages sent in response to final CCR messages to end session/s. |
| CCA-Final Timeouts | Total number of final CCA messages sent in response to final CCR messages to end session/s but timed out. |
| CCA-Final Errors | Total number of errors in parsing the CCA-Terminate Message. |
| CCA-Final Dropped | Total number of CCA-T messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode. |
| ASR | Total number of Abort-Session-Requests (ASRs) received. |
| ASA | Total number of Abort-Session-Accept (ASA) messages sent in response to Abort-Session-Requests (ASRs). |
| RAR | Total number of Re-Auth-Requests (RARs) received for re-authorization. |
| RAA | Total number of Re-Auth-Requests (RARs) answered with Re-Auth-Answer (RAA) message. |
| RAR-CCR collision | Total number of Re-Auth-Request (RAR) messages received from PCRF when there is any outstanding Credit Control Request (CCR) message. |
| IRAT RAR Reject | The total number of DPCA Re-Auth-Accept messages sent in response to Re-Auth-Request (RAR) messages received from PCRF during S2b handoff. |
| CCA Parse Failure | |
| CCA-Initial Failure | This is the counter incremented when failure cb is invoked for CCR-Initial due to parse error at diabase. |
| CCA-Update Failure | This is the counter incremented when failure cb is invoked for CCR-Update due to parse error at diabase. |
| CCA-Final Failure | This is the counter incremented when failure cb is invoked for CCR-Final due to parse error at diabase |
| SGW Restoration | |

| Field | Description |
|---------------------------------|---|
| RAR Reject | The total number of RAR messages that were not processed during S-GW restoration. That is, the total number of RAR messages from the PCRF, that were rejected with result-code 5012 (UNABLE_TO_COMPLY). |
| RAR Accepted | |
| Rule Removals | The total number of times the P-GW accepted RAR with rule removals from the PCRF during S-GW Restoration. |
| Session Release | The total number of times the P-GW accepted RAR with Session Release Cause from the PCRF during S-GW Restoration. |
| CCA-U Dropped | The total number of times that the P-GW dropped CCA-U during S-GW Restoration. |
| CCA-U Accepted | |
| Rule Removals | The total number of times that the P-GW accepted CCA-U with rule removals from the PCRF during S-GW Restoration. |
| Session Release | The total number of times the P-GW accepted CCA-U with Session Release Cause from the PCRF during S-GW Restoration. |
| Internal Updates Dropped | |
| Revalidation Timeout | The total number of DPCA messages that were not sent towards PCRF due to the expiry of revalidation timer when S-GW is down. |
| Pending Updates | The total number of CCR-U's that were dropped when S-GW is down and update is received from SM/ECS. |
| Sync Request | The total number of messages that were dropped when S-GW is down and the session sync request is received. |
| SGW Restoration Reported | |
| RAA Sent | The total number of times S-GW restoration reported in RAA to the PCRF during S-GW Restoration. |
| CCR-U Sent | The total number of times that S-GW restoration reported in CCR-U to the PCRF during S-GW Restoration. |
| DPCA Message Error Stats | |
| Diameter Protocol Errs | Total number of errors related to Diameter protocol. |
| Bad Answers | Total number of errors related to invalid response/answers. |
| Unknown Session Reqs | Total number of errors related to unknown session requests. |
| Unknown Command Code | Total number of errors related to unknown command codes. |
| Unsupported Command Code | Total number of errors related to unsupported command codes. |

| Field | Description |
|---|---|
| Unk Failure Handling | Total number of errors related to unknown handling of failures. |
| DPCA Termination Cause Stats | |
| Diameter Logout | Total number of DPCA session termination due to Diameter logout. |
| Service Not Provided | Total number of DPCA session termination due to unavailability of service. |
| Bad Answer | Total number of DPCA sessions terminated due to invalid/bad response reason. |
| Administrative | Total number of DPCA sessions terminated due to administrative reasons. |
| Link Broken | Total number of DPCA sessions terminated due to link broken. |
| Auth Expired | Total number of DPCA sessions terminated due to authorization expired. |
| User moved | Total number of DPCA sessions terminated as subscriber/user moved to unknown/non-service area. |
| Session Timeout | Total number of DPCA sessions terminated due to timed out reason. |
| Auth Rejected | Total number of DPCA sessions terminated due to authorization rejected. |
| Other Errors | Total number of DPCA sessions terminated due to unknown reasons or reasons not listed in this list. |
| DPCA Experimental Result Code Stats: | Statistics of the number of times the specific Experimental-Result-Code value was received in the Diameter Gx Credit-Control-Answer (CCA) from the PCRF per IMSA service. |
| Error Initial Parameters | The number of times DIAMETER_ERROR_INITIAL_PARAMETERS (5140) Experimental-Result-Code value was received in the Diameter Gx CCA. |
| Error Trigger Event | The number of times DIAMETER_ERROR_TRIGGER_EVENT (5141) Experimental-Result-Code value was received in the Diameter Gx CCA. |
| Bearer Not Authorized | The number of times DIAMETER_ERROR_BEARER_NOT_AUTHORIZED (5143) Experimental-Result-Code value was received in the Diameter Gx CCA. |

| Field | Description |
|---------------------------|---|
| Traffic Mapping Rejected | The number of times DIAMETER_ERROR_TRAFFIC_MAPPING_INFO_REJECTED (5144) Experimental-Result-Code value was received in the Diameter Gx CCA. |
| PCC Rule Event | The number of times DIAMETER_PCC_RULE_EVENT (5142) Experimental-Result-Code value was sent in the Diameter Gx Re-Auth-Request (RAR). |
| Conflicting Request | This error is used when the PCRF cannot accept the UE-initiated resource request as a network-initiated resource allocation is already in progress with packet filters that cover the packet filters in the received UE-initiated resource request. |
| Bearer Event | This error is used when a PCC rule for some reason cannot be enforced or modified successfully in a network initiated procedure. |
| Bad Exp Result Code | The number of times an unknown Experimental-Result-Code value (apart from the ones recognized in CCA that are listed above PCC Rule Event) was received in the Diameter CCA. |
| PCRF Too Busy | This error is used when the PCRF is unable to process the CCR message due to transient failures. |
| Pending-Trans-Sent | The total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is sent to the server. |
| Pending-Trans-rcvd | The total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is received from the server. |
| Session Recovery Req | The total number of times the session recovery request experimental result code is received from PCRF. |
| Diameter Overload Control | <p>The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received from the PCRF.</p> <p>This result code is used to indicate that all the nodes connected behind the Diameter Agent are overloaded and that the client (ePDG and P-GW) should not attempt the message on the alternate connection.</p> |
| Newer Session Detected | <p>The total number of times the Experimental-Result-code (5199 - DIAMETER_NEWER_SESSION_DETECTED) is received from the PCRF.</p> <p>When the response message is received with 5199 result code, the Diameter application does not retry to a secondary AAA server. If the Experimental Result-Code 5199 is received in Assume Positive mode, then the current call is terminated.</p> |

| Field | Description |
|--|--|
| Gx APN Change | The total number of times the Experimental-Result-code (5999 - DIAMETER_GX_APN_CHANGE) is received from the PCRF. This result code is sent when Virtual APN is selected through PCRF. |
| Diameter Overload Control Stats: | |
| CCA-Initial | The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-I. |
| CCA-Update | The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-U. |
| CCA-Terminate | The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-T. |
| Session Sync Request Stats: | |
| RAR | The total number of times the RARs in which the session sync request is received. |
| CCA | The total number of times the CCAs in which the session sync request is received. |
| DPCA FH Retry Server On Event | |
| Important The counters under "DPCA FH Retry Server On Event" will not be incremented if the message is sent or received after session recovery/ICSR switchover. | |
| CCR-Update | The total number of times the CCR-U is sent out after Failure-Handling action " continue retry-server-on-event " is applied. |
| CCR-Terminate | The total number of times the CCR-T is sent out after Failure-Handling action " continue retry-server-on-event " is applied. |
| RAR | The total number of times the RAR is received after Failure-Handling action " continue retry-server-on-event " is applied. |
| Session Release Cause | |
| CCA | |
| Unspecified Reason | The total number of IP CAN sessions terminated because of Session Release Cause "Unspecified Reason" received in CCA. |

| Field | Description |
|------------------------------------|--|
| UE Subscription Changed | The total number of IP CAN sessions terminated because of Session Release Cause "UE Subscription Changed" received in CCA. |
| Insuffent Srvr Resource | The total number of IP CAN sessions terminated because of Session Release Cause "Insufficient Server Resources" received in CCA. |
| RAR | |
| Unspecified Reason | The total number of IP CAN sessions terminated because of Session Release Cause "Unspecified Reason" received in RAR. |
| UE Subscription Changed | The total number of IP CAN sessions terminated because of Session Release Cause "UE Subscription Changed" received in RAR. |
| Insuffent Srvr Resource | The total number of IP CAN sessions terminated because of Session Release Cause "Insufficient Server Resources" received in CCA. |
| DPCA Failure Handling Stats | |
| Connection Based FH | |
| Total FH Triggered | Total number of times when ims-auth-service Failure Handling is triggered. |
| Total Message Timeouts | Total number of response message timeouts, i.e. PCRF failed to respond within the configured timeout value. |
| CCA-Initial | Response to the CCR-I message was timed out. |
| CCA-Update | Response to the CCR-U message was timed out. |
| CCA-Terminate | Response to the CCR-T message was timed out. |
| Total Message Send Errs | Total number of requests failed to be sent due to socket based send errors. |
| CCR-Initial | CCR-I failed to be sent due to socket based errors. |
| CCR-Update | CCR-U failed to be sent due to socket based errors. |
| CCR-Terminate | CCR-T failed to be sent due to socket based errors. |
| Result Code Based FH | |
| Configured Result Code | Failure handling being undertaken due to configured result code range. |
| CCA-Initial | Failure handling being undertaken due to configured result code range for CCA-Initial messages. |

| Field | Description |
|--------------------------------------|--|
| CCA-Update | Failure handling being undertaken due to configured result code range for CCA-Update messages. |
| CCA-Terminate | Failure handling being undertaken due to configured result code range for CCA-Terminate messages. |
| Unh and Unk Result Code | Failure handling being undertaken due to a result code which is neither defined in the diameter or customer specs. |
| CCA-Initial | Failure handling being undertaken due to unknown result code for CCA-Initial messages. |
| CCA-Update | Failure handling being undertaken due to unknown result code for CCA-Update messages. |
| CCA-Terminate | Failure handling being undertaken due to unknown result code for CCA-Terminate messages. |
| FH Behavior | |
| Continue | Total number of times the failure handling action "continue" has been undertaken. |
| Retry-And-Continue | Total number of times the failure handling action "retry-and-continue" has been undertaken. |
| CCR on Call Terminate | Total number of times the failure handling action "continue" has been undertaken and CCR-T has been sent to PCRF on call termination. |
| Continue-Without-Retry | Total number of times the failure handling action "continue-without-retry" has been undertaken. This failure action implies that the IMSA call will be continued without retrying to the secondary PCRF. |
| Continue-With-Fallback | Total number of times the failure handling action "continue-with-fallback" has been undertaken. This failure action implies that the IMSA call will be continued with the PCC rules defined in local policy. |
| Continue-With-Fallback Without Retry | Total number of times the failure handling action "continue-fallback-wo-retry" has been undertaken. This failure action implies that the IMSA call will be continued with the PCC rules defined in local policy without retrying to the secondary PCRF server. |
| Retry Server On Event | Total number of times the failure-handling action "continue-retry-server-on-event" has been undertaken. |
| Retry and Terminate | |
| Retry-And-Terminate | Total number of times the failure handling action "retry-and-terminate" has been undertaken. |

| Field | Description |
|------------------------------|---|
| Retry Term without CCRT | Total number of times the failure handling action "retry-and-terminate" has been undertaken without sending CCR-T to PCRF on call termination. |
| Retry same server | Total number of times the failure handling action "retry-and-terminate" has been applied to retry to the same server within a configurable timer. |
| Termination | |
| Terminate | Total number of times the failure handling action "terminate" has been undertaken. |
| Terminate without CCRT | Total number of times the failure handling action "terminate" has been undertaken without sending CCR-T to PCRF on call termination. |
| Local Fallback Cause Stats | Displays the reason for fallback to local-policy. |
| Tx-expiry | Total number of the times the OCS server is unreachable due to Tx expiry. |
| Request-timeout | Total number of the times the OCS server is unreachable due to request timeout. |
| Diabase error | Total number of the times the OCS server is unreachable due to Diabase error. |
| Result-code error | Total number of the times the OCS server is unreachable due to Result code errors. |
| Peer Switches | |
| Attempted Switches | Total number of peer switches attempted. |
| Successful Switches | Total number of peer switches successful. |
| Switches-Tx timeout | Total number of peer switches due to timeout expiry. |
| Switches-RAR change | Total number of peer switches due to RAR from secondary server. |
| CCA Result Code Stats | |
| Result Code 2xxx | Total number of CCA messages that have been received with result code 2xxx for Gx. |
| Result Code 3xxx | Total number of CCA messages that have been received with result code 3xxx for Gx. |
| Result Code 4xxx | Total number of CCA messages that have been received with result code 4xxx for Gx. |

| Field | Description |
|---------------------------|---|
| Result Code 5xxx | Total number of CCA messages that have been received with result code 5xxx for Gx. |
| Other Result Code | Total number of CCA messages that have been received with other result codes for Gx. |
| Backpressure Stats | |
| CCR-I Backpressure Stats | |
| Messages | Total number of CCR-I messages that are in backpressure state. |
| Failures | Total number of times the application fails to create a CCR-I message due to no TCP connection when the messages are in backpressure state. |
| Sess-Id Recovery Failures | Total number of times the CCR-I message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens. |
| CCR-U Backpressure Stats | |
| Messages | Total number of CCR-U messages that are in backpressure state. |
| Failures | Total number of times the application fails to create a CCR-U message due to no TCP connection when the messages are in backpressure state. |
| Max Retry | Total number of times the max retries have been attempted when the CCR-U message is in backpressure state. |
| Dropped Messages | Total number of CCR-U request messages that are dropped when there are already some messages in backpressure state. |
| Sess-Id Recovery Failures | Total number of times the CCR-U message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens. |
| CCR-T Backpressure Stats | |
| Messages | Total number of CCR-T messages that are in backpressure state. |
| Failures | Total number of times the application fails to create a CCR-T message due to no TCP connection when the messages are in backpressure state. |
| Sess-Id Recovery Failures | Total number of times the CCR-T message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens. |
| RAA Result Code Stats | |

| Field | Description |
|---------------------------------|--|
| Result Code 2xxx | Total number of RAA messages that are received with the result-code between 2000 and 2999 |
| Result Code 3xxx | Total number of RAA messages that are received with result-code between 3000 to 3999. |
| Result Code 4xxx | Total number of RAA messages that are received with result-code between 4000 to 4999. |
| Result Code 5xxx | Total number of RAA messages that are received with result-code between 5000 to 5999. |
| Other Result Code | Total number of RAA messages that are received with result-code other than the range of 2xxx to 5xxx. |
| Responses in Queue | |
| Current Responses in Queue | Total number of out of order responses present in queue across all sessions at current time. |
| Purged Responses | Total number of responses purged without sending to the session manager. |
| Total Response in Queue | Total number of responses that are buffered in the queue. |
| Requests in Queue for LP | |
| Current Requests in Queue | Total number of requests present in the queue which are yet to be sent to Local Policy module. |
| Purged Requests | Total number of requests purged without sending to Local Policy. |
| Total Requests Fwd to LP | Total number of outstanding requests forwarded to Local Policy. |
| Session Recovery Failure | |
| Resource Limitation | Total number of times the rule installation failed due to the resource limitation i.e. when received string is more than expected size like redirecturlen more than 512. |
| Unknown Bearer ID | Total number of times the rule installation failed due to unknown bearer ID. |
| Invalid QCI | Total number of times the rule installation failed due to invalid QCI. |
| Invalid ARP | Total number of times the rule installation failed due to invalid ARP. |
| Bearer-Id in QoS | Total number of times the rule installation failed due to a mismatch in the bearer ID present in QoS flow. |
| Session Recovery Failure | |

| Field | Description |
|------------------|---|
| Activate-LP-Rule | Indicates the total number of times lp-activate-rules session recovery or ICSR recovery failed. |

show ims-authorization policy-gate status full



Important This command is no longer an option in StarOS release 11.0 and beyond.

Table 327: show ims-authorization policy-gate status full Command Output Descriptions

| Field | Description |
|---------------|--|
| CallID | Specifies Call Identifier. |
| IMSI | Specifies International Mobile Subscriber Identity (IMSI) of subscriber. |
| NSAPI | Specifies Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber. |
| Charging Rule | Specifies dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Precedence | Displays the precedence of the dynamic charging rule applicable to specific flow. |
| Flow Status | Specifies the status of flow with specific charging rule. Possible states are: <ul style="list-style-type: none"> • Open • Closed • Dormant |
| Flow Dir | Specifies the direction of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. Possible states are: <ul style="list-style-type: none"> • Uplink • Downlink |
| Source Addr | Specifies the source IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |

| Field | Description |
|-----------------------|--|
| Source Addr Mask | Specifies the masking of source IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Destination Addr | Specifies the destination IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Destination Addr Mask | Specifies the masking of destination IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Source Port | Specifies the IP port of flow origin with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Destination Port | Specifies the destination IP port of flow end with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |

show ims-authorization policy-gate counters all



Important This command is no longer an option in StarOS release 11.0 and beyond.

Table 328: show ims-authorization policy-gate counters all Command Output Descriptions

| Field | Description |
|--------------------|---|
| CallID | Specifies Call Identifier. |
| IMSI | Specifies International Mobile Subscriber Identity (IMSI) of subscriber. |
| NSAPI | Specifies Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber. |
| Charging Rule | Specifies dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. |
| Gate State changed | Displays the change state of policy gate for specific subscriber flow. Possible values are: <ul style="list-style-type: none"> • 0: No change • 1: Changed |

| Field | Description |
|--------------------------|--|
| Uplink Pkts Statistics | Displays the statistics of packets in uplink direction. |
| Downlink Pkts Statistics | Displays the statistics of packets in downlink direction. |
| Pkts processed | Displays the total number of packets received and processed. |
| Bytes processed | Displays the total number of bytes received and processed. |
| Pkts dropped | Displays the total number of packets received but dropped. |
| Bytes dropped | Displays the total number of bytes received but dropped. |

show ims-authorization servers

Table 329: show ims-authorization servers ims-auth-service Command Output Descriptions

| Field | Description |
|--------------------------------------|---|
| Service Name | IMS authorization service name. |
| IMS Authorization Server | IMS authorization server name. |
| Server Type | IMS Authorization server type. It may be Policy, Charging, or both. |
| PCRF host | Identifies the Policy Control and Charging Rules Function (PCRF) host. |
| Operational State | Indicates operational state of the authorization server. |
| Server Session State | Indicates authorization server session state. |
| Server Statistics | Indicates authorization server session statistics. |
| Session Active | Total number of active authorization server sessions. |
| Session Opened | Total number of opened authorization server sessions. |
| Session Closed | Total number of closed authorization server sessions. |
| Sessions switched due to Tx Expiry | Total number of sessions switched due to transmission expiry. |
| Sessions switched due to reselection | Total number of sessions switched due to re-selection of authorization servers. |
| Server Up -> down indications | Total number of servers going to down state from up state. |
| Pending-Transactions | |

| Field | Description |
|---|---|
| RAA sent | Total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is sent to the server. |
| CCA rcvd | Total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is received from the server. |
| Session Recovery Request | |
| CCA rcvd | Total number of times the session recovery request is received in CCA. |
| CCR sent | Total number of times the subsequent CCR updates are sent in session recovery request. |
| Session Sync Request | |
| RAR rcvd | Total number of times the session sync request is received in RAR. |
| CCA rcvd | Total number of times the session sync request is received in CCA. |
| CCR sent | Total number of times the subsequent CCR updates are sent in session sync request. |
| Total servers matching specified criteria | Total number of servers matching the specified criteria. |

show ims-authorization service name

Table 330: show ims-authorization service name Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| IMS Authorization Service Name | Name of IMS authorization service name. |
| Context | Name of the context in which IMS authorization service is configured. |
| Service State | State of the IMS authorization service. |
| Service mode | Mode of IMS authorization service for policy and charging. |
| Binding Mechanism | Describes the mechanism on the control of bearer resources based on a binding mechanism that binds one or more service to a bearer. |

| Field | Description |
|--|---|
| QoS Update Timeout | Specifies the timeout duration in seconds to discard QoS update request. NOTE: QoS Update Timeout is no longer shown in StarOS release 11.0 and beyond. |
| Reauth Trigger | Specifies the Re-authorization trigger's status. |
| P-CSCF Discovery | Specifies the configured route-table applicable for Proxy-Call Session Control Function (P-CSCF) discovery. |
| P-CSCF Selection Table[<i>n</i>] | Specifies the configured selection table information for Proxy-Call Session Control Function (P-CSCF) server selection. This table includes information on the configured row precedence, primary and secondary IP address, and the weight. [<i>n</i>] indicates the selection table number. |
| Diameter Policy Control Specifies Diameter Policy Control related configuration and information. | |
| Endpoint | Specifies Diameter endpoint name for Diameter Policy Control. |
| Origin-Realm | Specifies Diameter origin domain name for Diameter Policy Control. |
| Dictionary | Specifies the configured applicable dictionary for Diameter Policy Control. |
| Update-Dictionary-Avps | Indicates whether the 3GPP Rel. 8 AVPs, 3GPP Rel. 9 AVPs are selected for encoding. |
| Supported Features | Displays the information about the supported features that are configured. |
| Request Timeout | Indicates the configured request timeout value. |
| Endpoint Peer Select | Indicates the configuration of endpoint peer selection at Database. |
| Extended-bw-nr | Enables the extended bandwidth with new radio feature support on Gx interface. |
| Reauth Trigger | Indicates the re-authorization trigger status. |
| Custom Reauth Trigger | Indicates enabled custom reauth event triggers. |
| Failure Handling | Specifies the configured mechanism for failure handling in Diameter Policy Control. |
| Peer Switch | Specifies the status of Peer switching for in Diameter Policy Control. Important This field has been deprecated in 8.1 and later releases. |

| Field | Description |
|-----------------------------------|---|
| Local Policy Service | Specifies the configured local policy service name. |
| Host Selection | Specifies host selection mechanism with selection table. |
| Host Reselection Subscriber Limit | Specifies the limit of subscriber bind to specific host origin to trigger re-selection of host. |
| Host Reselection Interval | Specifies time interval to trigger host re-selection for subscriber. |
| Sgsn Change Reporting | Specifies whether or not the feature, to report SGSN-Address AVP in CCR-I messages during GnGp scenario, is configured. |
| Session-Id Mismatch Clear Session | Specifies whether or not the feature, to delete session ID mismatched subscriber sessions during ICSR switchovers or process failures, is configured. For more information on this feature, see the <i>Gx Interface Support</i> chapter in the administration guide for the product you are deploying. |
| 3GPP R9 Flow Direction Compliance | Specifies whether or not the feature, to enable Rel.9 changes for Flow-Description, TFT-Filter, and Packet-Filter-Content AVPs, is configured. For more information on this feature, see the <i>Gx Interface Support</i> chapter in the administration guide for the product you are deploying. |
| Host Selection Table[<i>n</i>] | Specifies the configured selection table information for host server selection. [<i>n</i>] indicates the selection table number. |
| Precedence | Specifies the precedence applicable. |
| Primary Host | Specifies the primary name/IP address the host. |
| Secondary Host | Specifies the secondary name/IP address of the host. |
| multiple-pra | Multiple Presence Reporting Area Information Reporting. |

show ims-authorization service name p-cscf all

Table 331: show ims-authorization service name p-cscf all Command Output Descriptions

| Field | Description |
|--------|--|
| Server | Name of the Proxy-Call Session Control Function (P-CSCF) server. |

| Field | Description |
|---|---|
| Active Sessions | Number of active PDN sessions served per allocated P-CSCF IPv4/IPv6 address pair (primary and secondary servers). |
| Total servers matching specified criteria | Displays the total number of servers matching the specified criteria. |

show ims-authorization service statistics

Table 332: show ims-authorization service statistics Command Output Descriptions

| Field | Description |
|---|--|
| IMS Auth Service Statistics Summary | |
| Important In StarOS release 14.0 and later, all these statistics will be incremented per control session (subscriber). | |
| Total Services | Total number of IMS authorization services running in the system. |
| Control Session Statistics | |
| Current Active | Total number of current sessions that are active. |
| Total Setup | Total number of sessions set up. |
| Auth Session | |
| Current Active | Total number of current sessions that are active. |
| Current Fallback Session | Total number of the sessions that are currently in local-fallback state. |
| Current PCRF Session | Total number of the sessions that are currently associated with PCRF. |
| Total Attempted | Total number of authorization sessions attempted. |
| Total Setup | Total number of sessions set up. |
| Total Failed | Total number of failed sessions. |
| Total Released | Total number of released sessions. |
| Total Fallback | Total number of sessions which fell back to the local policy. |
| Setup Failures | |
| Auth Failure | Total number of authorization failures. |
| PCRF Not Up | Total number of failures due to PCRF being down. |
| PCRF Selection Error | Total number of failures due to PCRF selection errors. |

| Field | Description |
|-------------------------------|--|
| Table Change Init | Total number of failures due to table change initialization. |
| Server Discovery Failure | Total number of failures due to server discovery failure. |
| Session Releases | |
| Normal Released | Total number of normal session releases. |
| Abnormal Released | Total number of abnormal session releases. |
| Session Terminated | Total number of sessions aborted. |
| PCRF Down | Total number of sessions terminated when PCRF is not responding |
| Admin Release | Total number of sessions releases initiated by Administrator. |
| Server Re-selection | Total number of sessions terminated due to the server reselection. |
| Unusual Release | Displays the unusual logs. This counter will be incremented in places where ASSERT is replaced with call drop. Important This counter will NOT be displayed if "service name" filter is given to the CLI command, as the counter is incremented per IMSA instance. |
| Initial Authorization | |
| Total Attempts | Total number of initial authorization attempts. |
| Total Successful | Total number of successful initial authorization attempts. |
| Total Failed | Total number of failed initial authorization attempts. |
| Authorization Failures | |
| Diameter Errors | Total number of authorization failures due to Diameter errors. |
| Policy Enforcement | Total number of authorization failures due to policy enforcement. |
| Validation Failure | Total number of authorization failures due to validation failure. |
| UE Not Served Reject | Total number of rejections due to PCRF reselection failures. |
| Re-Authorization | |
| Total Attempts | Total number of re-authorization attempts. |
| Total Successful | Total number of successful reauthorization attempts. |
| Total Failed | Total number of failed re-authorization attempts. |
| Local-Fallback | |

| Field | Description |
|----------------------------------|--|
| CCRU received | Total number of CCR-Us received when the call is with local-policy. |
| RAR received | Total number of RARs received when the call is with local-policy. |
| Re-Authorization Failures | |
| Validation Failure | Total number of validation failures. |
| Re-Authorization Triggers | |
| SGSN Change | Total number of re-authorizations triggered due to change in SGSN for subscriber node. |
| PLMN Change | Total number of re-authorizations triggered due to change in Public Land Mobile Network (PLMN). |
| RAT Change | Total number of re-authorizations triggered due to change in Radio Access Type (RAT) of subscriber node. |
| TFT Change | Total number of re-authorizations triggered due to change in Traffic Flow Template (TFT) of subscriber session. |
| TFT Delete | Total number of re-authorizations triggered due to deletion of TFT of subscriber session. NOTE: TFT Delete is no longer shown in StarOS release 11.0 and beyond. |
| Bearer Recovery | Total number of re-authorizations triggered due to bearer or service recovery after loss of bearer or service. |
| Bearer Loss | Total number of re-authorizations triggered due to loss of bearer or service. |
| QoS Change | Total number of re-authorizations triggered due to change in Quality of Service (QoS) level/rating of subscribers. |
| Policy Failure | Total number of re-authorizations triggered due to failure of credit and charging policy. |
| IP-CAN Change | Total number of re-authorizations triggered due to IP-CAN changes. |
| Resources Limitation | Total number of re-authorizations triggered due to resource limitations. |
| Max Num of Bearers Rchd | Total number of re-authorizations triggered due to maximum number of bearers allowed. |
| QoS Chng Exceeding Auth | Total number of re-authorizations triggered due to QoS Change exceeding authorization. |
| RAI Change | Total number of re-authorizations triggered due to RAI changes. |

| Field | Description |
|---------------------------|---|
| User Location Change | Total number of re-authorizations triggered due to user location changes. |
| TAI Change | Total number of times P-GW has reported TAI_CHANGE (26) event trigger to PCRF. This field is added in support of TAI and ECGI Change Reporting feature. |
| ECGI Change | Total number of times P-GW has reported ECGI_CHANGE (27) event trigger to PCRF. This field is added in support of TAI and ECGI Change Reporting feature. |
| PCRF Triggered ReAuth | Total number of re-authorizations triggered due to PCRF triggered reauthorization. |
| Preservation Changed | Total number of re-authorizations triggered due to preservation changes. |
| Reactivation Changed | Total number of re-authorizations triggered due to reactivation changes. |
| Revalidation Timeout | Total number of re-authorization messages that are sent to PCRF because of "REVALIDATION_TIMEOUT" event trigger. |
| AN GW Changed | Total number of re-authorization messages that are sent to PCRF because of "AN_GW_CHANGE" event trigger. |
| Out Of Credit Reauth | Total number of re-authorization messages that are sent to PCRF because of "OUT_OF_CREDIT" event trigger. |
| Reallocation Of Credit | Total number of re-authorization messages that are sent to PCRF because of "REALLOCATION_OF_CREDIT" event trigger. |
| Def EPS Bearer QoS Chng | Total number of re-authorization messages that are sent to PCRF because of "DEFAULT_EPS_BEARER_QOS_CHANGE" event trigger. |
| Successful Resource Alloc | Total number of re-authorization messages that are sent to PCRF because of "SUCCESSFUL_RESOURCE_ALLOCATION" event trigger. |
| Usage Report | Total number of re-authorization messages that are sent to PCRF because of "USAGE_REPORT" event trigger. |
| Service Flow Detection | Total number of re-authorization messages that are sent to PCRF because of "SERVICE_FLOW_DETECTION" event trigger. |
| UE Timezone Change | Total number of re-authorization messages that are sent to PCRF because of "UE_TIME_ZONE_CHANGE" event trigger. |

| Field | Description |
|-------------------------------|--|
| UE IP Address Allocate | Total number of re-authorization messages that are sent to PCRF because of "UE_IP_ADDRESS_ALLOCATE" event trigger. |
| UE IP Address Release | Total number of re-authorization messages that are sent to PCRF because of "UE_IP_ADDRESS_RELEASE" event trigger. |
| Resource Modification Req | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "RESOURCE_MODIFICATION_REQUEST" event-trigger. |
| APN AMBR Modification Failure | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "APN_AMBR_MODIFICATION_FAILURE" event trigger. |
| Def Bearer QOS Mod Failure | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "DEFAULT_EPS_BEARER_QOS_MODIFICATION_FAILURE" event trigger. |
| Tethering Flow Detected | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "TETHERING_FLOW_DETECTED" event trigger. Important This field is customer-specific. For more information, contact your local Cisco account representative. |
| Chrg Correlation Exchange | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "CHARGING_CORRELATION_EXCHANGE" event trigger. |
| Access Network Info Report | Total number of CCR-U's sent to PCRF because of "ACCESS_NETWORK_INFO_REPORT (45)" event trigger. This field is added in support of Network Provided Location Information (NPLI) Reporting feature. |
| Session Recovery | Total number of CCR-U's that were sent for session recovery. |
| Session Sync | Total number of CCR-U's sent for session synchronization. |
| DCCA Failure Report | Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "Custom-Event-Trigger". |
| Application Start | Total number of CCR-U's sent to PCRF to notify the start of a specific protocol or a group of protocols through the event trigger "APPLICATION_START". This field is added in support of ADC rules over Gx feature. |

| Field | Description |
|---|---|
| Application Stop | Total number of CCR-Us sent to PCRF to notify the stop of a specific protocol or a group of protocols through the event trigger "APPLICATION_STOP". This field is added in support of ADC rules over Gx feature. |
| Endpoint-Peer-Select | |
| Host Select Failure | Total number of host select failures. |
| Inactive Host | Total number of inactive hosts. |
| Packet Statistics Important Packet Statistics are no longer shown in StarOS release 11.0 and beyond. | |
| Uplink Pkts Processed | Total number of uplink packets processed. |
| Downlink Pkts Processed | Total number of downlink packets processed. |
| Uplink Bytes Processed | Total number of uplink bytes processed. |
| Downlink Bytes Processed | Total number of downlink bytes processed. |
| Uplink Pkts Dropped | Total number of uplink packets dropped. |
| Downlink Pkts Dropped | Total number of downlink packets dropped. |
| Uplink Bytes Dropped | Total number of uplink bytes dropped. |
| Downlink Bytes Dropped | Total number of downlink bytes dropped. |

show ims-authorization sessions full all

Table 333: show ims-authorization sessions full all Command Output Descriptions

| Field | Description |
|--------------|--|
| CallId | The call identifier. |
| Service Name | The IMS authorization service name. |
| IMSI | The International Mobile Subscriber Identity (IMSI) of subscriber. |
| Session ID | The session ID is of type UTF8String and is used to identify a specific session. |
| NSAPI | The Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber. |

| Field | Description |
|-----------------------|--|
| Bearer Usage | Indicates the bearer usage for this session. Important This field is no longer available in 14.0 and later releases. |
| Bearer Type | Indicates the bearer type. Important This field is no longer available in 14.0 and later releases. |
| Bearer ID | Indicates the bearer identifier. Important This field is no longer available in 14.0 and later releases. |
| Context Type | Indicates the PDP context type: Primary or Secondary. Important This field is no longer available in 14.0 and later releases. |
| SGSN IP-Addr | IP address of the SGSN node. |
| APN | Indicates the Access Point Name (APN) for this service. |
| Bearer Control Mode | The bearer control mode: UE/NW Important Releases prior to 14.1, this field displays "None" for HA/MIPv6HA/PDSN service Gx calls. However, release 14.1 onwards, this field displays UE_ONLY for these calls. |
| State | Indicates the session state. Note that the state "Local fallback" will indicate that the IP CAN session has fallen back to local policy. |
| Primary PCRF Server | The primary Policy Control and Charging Rules Function (PCRF) server host name. |
| Secondary PCRF Server | The secondary PCRF server host name. |
| Primary P-CSCF | The primary Proxy-Call Session Control Function gateway address. Important In 15.0 and later releases, P-CSCF server address after session recovery is removed as P-CSCF addresses are required only during call establishment and not required at later stages of the session. Hence, the server address will not be displayed post session manager recovery. |

| Field | Description |
|--|---|
| Secondary P-CSCF | The secondary P-CSCF gateway address. Important In 15.0 and later releases, P-CSCF server address after session recovery is removed as P-CSCF addresses are required only during call establishment and not required at later stages of the session. Hence, the server address will not be displayed post session manager recovery. |
| UE IP Address | |
| UE IP Session Type | Specifies the type of the address assigned to the user. The possible valid values are IPv4, IPv6 and IPv4_IPv6. |
| IPv4 Address | Displays the IPv4 address assigned to the user. |
| IPv6 Address | Displays the IPv6 address assigned to the user. |
| Primary OCS Important In 16.0 and later releases, Primary OCS information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA. | |
| Hostname | Specifies the Primary-Event-Charging-Function-Name of type DiameterURI, or the address of primary online charging system. |
| Port | The port associated with the primary OCS. |
| Protocol | The protocol associated with the primary OCS. |
| Secondary OCS Important In 16.0 and later releases, Secondary OCS information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA. | |
| Hostname | Specifies the Secondary-Event-Charging-Function-Name of type DiameterURI, or the address of secondary online charging system. |
| Port | The port associated with the secondary OCS. |
| Protocol | The protocol associated with the secondary OCS. |
| Primary CCF Important In 16.0 and later releases, Primary CCF information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA. | |
| Hostname | Specifies the Primary-Charging-Collection-Function-Name of type DiameterURI or the address of primary offline charging system for the bearer. |

| Field | Description |
|---|--|
| Port | The port associated with the primary CCF. |
| Protocol | The protocol associated with the primary CCF. |
| Secondary CCF | |
| Important In 16.0 and later releases, Secondary CCF information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA. | |
| Hostname | Specifies the Secondary-Charging-Collection-Function-Name of type DiameterURI or the address of secondary offline charging system for the bearer. |
| Port | The port associated with the secondary CCF. |
| Protocol | The protocol associated with the secondary CCF. |
| Auth Decision | Parameters configured for authorization decision. |
| Event Triggers | Triggers for different events for Authorization decision. |
| Custom Event Triggers | This field indicates the registration of any custom event triggers. Note This field shows None when there is no custom event trigger. |
| Local Policy Enabled Event Triggers | This field indicates the list of event-triggers that are enabled from local-policy. |
| Event Report Indication | Specifies which type of changes will trigger an event report from the PCRF. |
| Negotiated Supported Features | Displays all the supported features that are actually applied to the session after negotiation with PCRF. |
| Authorized QoS | Displays the authorized QoS information for a specific session. In 15.0 and later releases, this field name has been changed to Negotiated QoS in order to display the negotiated QoS information. |
| QoS Policy | Specifies QoS policy for specific session. |
| QoS Class | The QoS class applicable to this session. |
| APN AMBR Uplink(in bps) | The APN uplink AMBR, in bps. |
| APN AMBR Downlink(in bps) | The APN downlink AMBR, in bps. |
| MBR Uplink(in bps) | The maximum bandwidth for uplink direction, in bps. |
| MBR Downlink(in bps) | The maximum bandwidth for downlink direction, in bps. |

| Field | Description |
|--|--|
| GBR Uplink Bw(in bps) | The guaranteed bandwidth for uplink direction, in bps. Important This field will display "NA" for GBR values for non-GBR bearers. |
| GBR Downlink Bw(in bps) | The guaranteed bandwidth for downlink direction, in bps. Important This field will display "NA" for GBR values for non-GBR bearers. |
| Charging Rules | Dynamic charging rule applicable for specific session in IMSA service. NOTE: Charging Rules are no longer shown in StarOS release 11.0 and beyond. |
| Rule Name | Name of the applicable dynamic charging rule. |
| Precedence | Precedence of the applicable dynamic charging rule. |
| Revalidation Time | Specifies the time at which the next CCR-U will be sent out for the Re-validation Timeout EVENT TRIGGER. |
| Session Packet Statistics | Specifies the session data statistics. NOTE: Session Packet Statistics are no longer shown in StarOS release 11.0 and beyond. |
| Uplink Pkt Processed | Total number of packets processed in uplink direction. |
| Uplink Bytes Processed | Total number of bytes processed in uplink direction. |
| Uplink Pkt Dropped | Total number of packets dropped or not processed in uplink direction. |
| Uplink Bytes Dropped | Total number of bytes dropped or not processed in uplink direction. |
| Downlink Pkt Processed | Total number of packets processed in downlink direction. |
| Downlink Bytes Processed | Total number of bytes processed in downlink direction. |
| Downlink Pkt Dropped | Total number of packets dropped or not processed in downlink direction. |
| Downlink Bytes Dropped | Total number of bytes dropped or not processed in downlink direction. |
| Total sessions matching specified criteria | The total number of sessions matching the specified criteria. |
| multiple-pra | Multiple Presence Reporting Area Information Reporting. |



CHAPTER 70

show ip

This chapter describes the outputs of the **show ip** command.

- [show ip framed-prefixes](#), on page 1363
- [show ip interface](#), on page 1363
- [show ip interface gre-keepalive](#), on page 1364
- [show ip pool address pool-name](#), on page 1366
- [show ip pool summary](#), on page 1366
- [show ip pool verbose](#), on page 1368
- [show ip route](#), on page 1373
- [show ip traffic sctp](#), on page 1373

show ip framed-prefixes

Table 334: show ip framed-prefixes Command Output Descriptions

| Field | Description |
|--------------|---|
| session-id | Displays the session identifier for the session corresponding to the framed-prefix. |
| Address/Mask | Displays the IP address. |
| vrf-name | Displays the vrf routing information. |
| pool-name | Displays the pool name used for framed-prefixes. |

show ip interface

Table 335: show ip interface Command Output Descriptions

| Field | Description |
|-----------|--|
| Intf Name | Indicates the name of the IP interface for which information is displayed. |

| Field | Description |
|-------------------------------|--|
| Intf Type | Indicates the type of IP interface for which information is displayed. Possible types are: <ul style="list-style-type: none"> • broadcast • loopback • point-to-point • tunnel |
| Description | Indicates the provided description for specific interface name. |
| VRF | Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface. |
| IP State | Indicates the state of the IP interface. Possible values are: <ul style="list-style-type: none"> • UP • DOWN |
| IP Address | Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation. |
| Number of Secondary Addresses | Indicates the total number of secondary IP addresses bound with this IP interface. |
| Secondary IP Addresses | Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be display only when secondary IP addresses are configured for this interface. |

show ip interface gre-keepalive

Table 336: show ip interface gre-keepalive Command Output Descriptions

| Field | Description |
|-----------|--|
| Intf Name | Indicates the name of the IP interface for which information is displayed. |
| Intf Type | Indicates the type of IP interface for which information is displayed. Possible types are: <ul style="list-style-type: none"> • broadcast • loopback • point-to-point • tunnel |

| Field | Description |
|--|--|
| Description | Indicates the provided description for specific interface name. |
| VRF | Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface. |
| IP State | Indicates the state of the IP interface. Possible values are: <ul style="list-style-type: none"> • UP • DOWN |
| IP Address | Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation. |
| Number of Secondary Addresses | Indicates the total number of secondary IP addresses bound with this IP interface. |
| Secondary IP Addresses | Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be displayed only when secondary IP address(es) are configured for this interface. |
| GRE Keepalives sent after receiving last response | Indicates the total number of GRE keepalive requests sent after last response was received. |
| Time remaining before sending next GRE Keepalive request | Indicates the time duration in seconds left after which next GRE keepalive request will be sent. |
| Time elapsed since last Keepalive from the remote | Indicates the time in seconds lapsed after last keepalive received from the remote node of GRE tunnel. |
| Total Number of GRE Keepalive requests sent | Indicates the total number of GRE keepalive requests sent by this node to remote GRE tunnel node during this session. |
| Total Number of GRE Keepalive responses received | Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from this node, received on this interface from remote GRE tunnel node during this session. |
| Total Number of GRE Keepalive requests received | Indicates the total number of GRE keepalive requests from remote GRE tunnel node, received by this node on this interface during this session. |
| Total Number of GRE Keepalive responses sent | Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from remote GRE tunnel node, sent by this node to remote GRE tunnel node during this session. |

show ip pool address pool-name

Table 337: show ip pool address pool-name Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Busyout | Defines whether or not the associated IP address is unavailable due to a busyout command having been applied to the entire pool or a range of addresses within the pool. |
| Status | Identifies the current condition of the IP address. Valid conditions are: (F) - Free: IP address is available for use. (U) - Used: IP address is currently in use and is unavailable. (H) - Hold: IP address is unavailable and on hold for the subscriber that just disconnected in case a reconnect occurs within the range of the address-hold-timer value configured in the ip pool command. (R) - Release: IP address is in the process of being released (from general use or the hold state). |
| Address | Displays the IP address. |
| NAI/MSID Hash | A 64-bit value identifying the subscriber's MN in order to reapply a specific IP address should the subscriber return within the hold timer range. |
| Hold Timer | Specifies the amount of time, in seconds, that the IP address is placed on hold in the event that the subscriber, who last used the address, reconnects. |
| Session Start/Disconnect | Displays the session start time for IP addresses in use and the session disconnect time for IP addresses on hold. |

show ip pool summary



Note

This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context context_name** command at the Execute prompt to switch between contexts.

Table 338: show ip pool summary Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| Type | Identifies the type of IP address pool. (P) - Public: Indicates that the pool is comprised of public IP addresses. (R) - Private: Indicates that the pool is comprised of private IP addresses. (S) - Static: Indicates that the pool is comprised of statically assigned IP addresses. (E) - Resource: Indicates that the pool is comprised of resource IP addresses. (N) - NAT: Indicates that the pool is comprised of NAT IP addresses. |
| State | Identifies the state of the IP address pool. (G) - Good: Indicates that the pool is ready to provide addresses. (D) - Pending Delete: Indicates that the pool is in the process of being deleted. (R) - Resizing: Indicates that the pool is in the process of being resized. (I) - Inactive: Indicates that the pool is not being used. |
| Priority | Specifies the priority use of a public or private pool. Pools with lower priority numbers are used first. |
| Busyout | Indicates whether or not the pool has been configured for busyout. |
| Pool Name | Identifies the name of the IP address pool. |
| Start Address | Identifies the starting IP address of the pool. |
| Mask/End Address | Identifies the subnet mask or the ending IP address of the pool. |
| Used | Specifies the number of IP addresses currently in use. |
| Avail | Specifies the number of IP addresses currently available for use. |
| Total Pool Count | Specifies the total number of IP address pools in the summary. |
| Total Pool Kernel Routes | Specifies the total number of Kernel routes that exist across all pools in the summary. |
| Max Pool Kernel Routes | Specifies the maximum number of IP pool routes supported by the system. |
| Total Pool Explicit Host Routes | Specifies the total number of pool explicit routes that exist across all pools in the summary. |

| Field | Description |
|-------------------------------|--|
| Max Pool Explicit Host Routes | Specifies the maximum number of pool explicit host routes supported by the system. |

show ip pool verbose



Note This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context** *context_name* command at the Execute prompt to switch between contexts.

Table 339: show ip pool verbose Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| Group | If there are IP address pools configured as part of a defined pool group, this field displays the name of the pool group. |
| Ungrouped Public Pools | Displays information for IP address pools not part of defined pool groups. |
| Pool | Identifies the name of the IP Pool. |
| Start Address/End Address or mask | Identifies the starting IP address and the ending IP address (or the subnet mask) of the pool. |
| Pool Status | Identifies the status if the IP address pool. Good: Indicates that the pool is ready to provide addresses. Pending Delete: Indicates that the pool is in the process of being deleted. Resizing: Indicates that the pool is in the process of being resized. Inactive: Indicates that the pool is not being used. |
| Type | Identifies the type of IP address pool. Public: Indicates that the pool is comprised of public IP addresses. Private: Indicates that the pool is comprised of private IP addresses. Static: Indicates that the pool is comprised of statically assigned IP addresses. Resource: Indicates that the pool is comprised of resource IP addresses. NAT: Indicates that the pool is comprised of NAT IP addresses. |
| Priority | Identifies the priority of the IP pool (0 = highest, 10 = lowest) |

| Field | Description |
|---------------------------------------|--|
| Group | Identifies the group to which the IP pool belongs. |
| VRF | Identifies the VRF name. |
| Used | Specifies the number of IP addresses currently in use in this pool. |
| Free | Specifies the number of IP addresses currently available for use in this pool. |
| Hold | Specifies the number of IP addresses currently unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the address-hold-timer value configured in the ip pool command. |
| Released | Specifies the number of IP addresses in this pool that are in the process of being released (from general use or the hold state). |
| Addr-Hold-Timer | Identifies the address-hold-timer value configured in the ip pool command. |
| Limit Exceeded | Specifies the number of times the hold timer limit was exceeded and the IP address being held was returned to an available or free state. |
| Addr-Quarantine-Timer | Identifies the address-quarantine-timer value configured in the ip pool command. |
| Quarantine | Specifies the number of times the quarantine timer limit was exceeded and the IP address being quarantined was returned to an available or free state. |
| Total Alloc Req | Specifies the total number of IP address requests made to this pool. |
| Total Rel Req | Specifies the total number of IP address release requests made to this pool. |
| Input Label | Identifies the input label for the VRF. |
| Output Label | Identifies the output label for the VRF. |
| Network Reachability Detection Server | Identifies the name of a configured network reachability server that is bound to the IP pool. |
| Unicast Gratuitous-ARP Address | Identifies if the ability to perform a unicast gratuitous ARP to the specified IP address rather than broadcast gratuitous ARP when gratuitous ARP generation is required is enabled for this pool. |
| Nexthop Forwarding Address | Identifies the IP address of the next hop gateway where a subscriber that is assigned an IP address from this pool is forwarded. |

| Field | Description |
|-----------------------------------|---|
| Vlan ID | Identifies the VLAN ID that enables over-lapping IP address pool support and associates the pool with the specified virtual LAN (VLAN). |
| Suppress-Switchover-ARPS | Identifies if the ability to suppress corresponding gratuitous ARP generation when a line card switchover occurs is enabled or disabled for this pool. |
| Send-ICMP-Dest-Unreachable | Specifies whether or not an ICMP destination unreachable PDU is generated when the system receives a PDU destined for an unused address within the pool. |
| Explicit-Route-Advertise | If a pool is configured with this option, then none of the fragment addresses for this pool are added to the kernel. However, the fragment addresses are added to the NPU. As the calls come up and addresses from this pool (with the new option) are used, these addresses are added to the kernel. |
| Advertise-if-used | Indicates if the option is enabled to use advertise address or not. |
| Include-Network-Broadcast-Address | Indicates whether IP pool is configured to include network broadcast address or not. |
| Allow-Static-Allocation | Indicates whether IP pool configured to allow static allocation of IP address or not. |
| Group Available Threshold | Specifies the low threshold IP pool utilization percentage that must be met or passed within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. |
| Pool-Free Threshold | Specifies the low threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. |
| Pool-Used Threshold | Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated. |

| Field | Description |
|--------------------------------------|--|
| Pool-Release Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| Pool-Hold Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| Pool-Quarantine Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| cip-local-pool-used Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| cip-local-pool-in-use-addr Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| Group Summary | This field and the related data are only displayed for pools that are part of a IP pool group. |
| Group Used | Specifies the number of IP addresses within the group that are currently in use. |
| Group Free | Specifies the number of IP addresses within the group that are currently available. |

| Field | Description |
|-----------------------------------|---|
| Group Hold | Specifies the number of IP addresses in the group that are unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the address-hold-timer value configured in the ip pool command. |
| Group Released | Specifies the number of IP addresses in the group that are in the process of being released (from general use or the hold state). |
| Group Effective Alarm Threshold % | Identifies the alarm threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group. |
| Group Effective Clear Threshold % | Identifies the clear threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group. |
| Group Current Usage % | Identifies the percentage of IP addresses currently in use within the group. |
| Group Status | Identifies the status of the group. (G) - Good: Indicates that the pool is ready to provide addresses. (D) - Pending Delete: Indicates that the pool is in the process of being deleted. (R) - Resizing: Indicates that the pool is in the process of being resized. (I) - Inactive: Indicates that the pool is not being used. |
| Total Pool Count | Specifies the total number of IP address pools in the summary. |
| Total Pool Kernel Routes | Specifies the total number of Kernal routes that exist across all pools in the summary. |
| Max Pool Kernel Routes | Specifies the maximum number of IP pool routes supported by the system. |
| Total Pool Explicit Host Routes | Specifies the total number of pool explicit routes that exist across all pools in the summary. |
| Max Pool Explicit Host Routes | Specifies the maximum number of pool explicit host routes supported by the system. |

show ip route

Table 340: show ip route Command Output Descriptions

| Field | Description |
|--------------------|--|
| Destination | Designating ip address prefix/length |
| kernel-only | Displays information for only kernel routes (ip route kernel). |
| Next hop | Address of the directly connected next hop interface |
| Protocol | Connected Unconnected |
| Prec | Number of precedence bits set |
| Cost | Number of router hops to destination address |
| Interface | Name of the next hop interface |
| Total Route Count | Total number of routes |
| Unique route count | Number of unique routes |
| Connected | Number of connected routes |

show ip traffic sctp

Table 341: show ip traffic sctp Command Output Descriptions

| Field | Description |
|-------------------|--|
| SctpCurrEstab | Displays the number of SCTP (Stream Control Transmission Protocol) associations for which the current state is either ESTABLISHED, SHUTDOWN-RECEIVED or SHUTDOWN-PENDING. |
| SctpActiveEstabs | Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the COOKIE-ECHOED state. The upper layer initiated the association attempt. |
| SctpPassiveEstabs | Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the CLOSED state. The remote endpoint initiated the association attempt. |
| SctpAborteds | Displays the number of times that associations have made a direct transition to the CLOSED state from any state using the primitive "ABORT". (Ungraceful termination of the association) |

| Field | Description |
|----------------------|--|
| SctpShutdowns | Displays the number of times that associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state. (Graceful termination of the association) |
| SctpOutOfBlues | Displays the number of out-of-the-blue packets received by the host. An out-of-the-blue packet is a correctly formed SCTP packet, including the proper checksum, but for which the receiver was unable to identify an appropriate association. |
| SctpChecksumErrors | Displays the number of SCTP packets received with an invalid checksum. |
| SctpOutCtrlChunks | Displays the number of SCTP control chunks sent; retransmissions are not included. Control chunks are those chunks different from DATA. |
| SctpOutOrderChunks | Displays the number of SCTP ordered data chunks sent; retransmissions are not included. |
| SctpOutUnorderChunks | Displays the the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) sent; retransmissions are not included. |
| SctpInCtrlChunks | Displays the number of SCTP control chunks received; no duplicate chunks included. |
| SctpInOrderChunks | Displays the number of SCTP ordered data chunks received; no duplicate chunks included. |
| SctpInUnorderChunks | Displays the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) received; no duplicate chunks are included. |
| SctpFragUsrMsg | Displays the number of user messages that have to be fragmented because of the MTU. |
| SctpReasmUsrMsgs | Displays the number of user messages reassembled, after conversion into DATA chunks. |
| SctpOutSCTPPacks | Displays the number of SCTP packets sent; retransmitted DATA chunks are included. |
| SctpInSCTPPacks | Displays the number of SCTP packets received; duplicates are included. |



CHAPTER 71

show ipsg

This chapter describes the outputs of the **show ipsg** commands.

- [show ipsg service all](#), on page 1375
- [show ipsg sessions counters all](#), on page 1376
- [show ipsg statistics](#), on page 1377

show ipsg service all

Table 342: show ipsg service all Command Output Descriptions

| Field | Description |
|--------------------|---|
| Service name | Name of the IPSG service. |
| Context | Name of the context in which the IPSG service is configured. |
| Bind | The binding status of the service. Indicates if the service has been bound to the appropriate interfaces (RADIUS-Server mode) or to any interface in the context (RADIUS-Snoop mode). |
| Max Subscribers | The total number of subscribers allowed for the service. This field displays a configured number or, if not configured, the total amount specified by the IPSG service license. |
| Mode | The IPSG service mode type: radius-server or radius-snoop |
| Address | The IP address of the interface where RADIUS Accounting-Request messages are received. |
| Port | The port number of the interface where RADIUS Accounting-Request messages are received. |
| Disconnect-Message | Displays whether the RADIUS Accounting disconnect-message option is enabled or disabled. |
| Source Port | The port number configured for the disconnect-message. |
| Source-Context | The source context with the interface where RADIUS Accounting-Request messages are received. |

| Field | Description |
|------------------------|--|
| Overlapping IP address | Displays whether overlapping IP address is enabled or disabled. |
| Default Subscriber | The default subscriber for the context. |
| Service Status | The status of the IPSG service. Indicates if the service has been started. |
| SGTP Service | Name of the SGTP service associated with this service. |
| SGTP Service Context | Name of the context in which the SGTP service is configured. |
| Default APN Name | Name of the default APN to be used for this service. |
| PLMN Id | The Public Land Mobile Network (PLMN) identifier for the eWAG service. |
| MCC | The mobile country code (MCC) part of the PLMN ID. |
| MNC | The mobile network code (MNC) part of the PLMN ID. |

show ipsg sessions counters all

Table 343: show ipsg sessions counters all Command Output Descriptions

| Field | Description |
|--------------------------------------|---|
| Username | The user name for the session. |
| Callid | The call ID number for the session. |
| MSID | The Mobile Station Identification number. |
| RADIUS Accounting: | |
| Total START Req rcvd | Total number of RADIUS Accounting-Start Request messages received since the last system restart or clear command. |
| Total START Req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-Start Request messages received. |
| Total START Rsp Sent | Total number of RADIUS Accounting-Start Response messages sent by this system. |
| Total INTERIM Updt rcvd | Total number of RADIUS Accounting-Interim Update messages received. |
| Total INTERIM Updt Rsp sent | Total number of RADIUS Accounting-Interim Update Response messages sent. |
| Total Acct On Req rcvd | Total number of RADIUS Accounting-On Request messages received. |

| Field | Description |
|---|---|
| Total Acct On Req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-On Request messages received. |
| Total Acct On Response sent | Total number of RADIUS Accounting-On Response messages sent. |
| Total Acct Off Req rcvd | Total number of RADIUS Accounting-Off Request messages received. |
| Total Acct Off Req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-Off Request messages received. |
| Total Acct Off Response sent | Total number of RADIUS Accounting-Off Response messages sent. |
| Total STOP Req rcvd | Total number of RADIUS Accounting-Stop Request messages received. |
| Total STOP Rsp sent | Total number of RADIUS Accounting-Stop Response messages sent. |
| Total Non-Existing STOP Rsp sent | Total number of RADIUS Accounting-Stop Response messages sent for a non-existing session. |
| Total ACCESS Req rcvd | Total number of IPSG RADIUS Access-Request messages received. |
| Total ACCESS Req (Retransmitted) rcvd | Total number of retransmitted IPSG RADIUS Access-Request messages received. |
| Total ACCESS Challenge sent | Total number of IPSG RADIUS Access-Challenge messages sent. |
| Total Access-Accept sent | Total number of IPSG RADIUS Access-Accept messages sent. |
| Total Access-Reject sent | Total number of IPSG RADIUS Access-Reject messages sent. |
| Total Response sent | Total number of RADIUS accounting response messages sent. |

show ipsg statistics

Table 344: show ipsg statistics Command Output Descriptions

| Field | Description |
|-----------------------|-----------------------------------|
| Session Stats: | |
| Total Current | Total number of current sessions. |
| Total Setup | Total number of sessions setup. |

| Field | Description |
|---|---|
| Total Released | Total number of sessions released. |
| Total Replaced | Total number of sessions replaced. |
| RADIUS Message Statistics: | |
| Total START Req rcvd | Total number of RADIUS Accounting-Start Request messages received since the last system restart or clear command. |
| Total START Req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-Start Request messages received. |
| Total START Rsp Sent | Total number of RADIUS Accounting-Start Response messages sent by this system. |
| Total INTERIM Updt rcvd | Total number of RADIUS Accounting-Interim Update messages received. |
| Total INTERIM Updt Rsp sent | Total number of RADIUS Accounting-Interim Update Response messages sent. |
| Total STOP Req rcvd | Total number of RADIUS Accounting-Stop Request messages received. |
| Total STOP Rsp sent | Total number of RADIUS Accounting-Stop Response messages sent. |
| Total Acct On req rcvd | Total number of RADIUS Accounting-On Request messages received. |
| Total Acct On req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-On Request messages received. |
| Total Acct On Response sent | Total number of RADIUS Accounting-On Response messages sent. |
| Total Acct Off Req rcvd | Total number of RADIUS Accounting-Off Request messages received. |
| Total Acct Off Req (Retransmitted) rcvd | Total number of retransmitted RADIUS Accounting-Off Request messages received. |
| Total Acct Off Response sent | Total number of RADIUS Accounting-Off Response messages sent. |
| Total ACCESS Req rcvd | Total number of IPSG RADIUS Access-Request messages received. |
| Total ACCESS Req (Retransmitted) rcvd | Total number of retransmitted IPSG RADIUS Access-Request messages received. |
| Total ACCESS Challenge sent | Total number of IPSG RADIUS Access-Challenge messages sent. |

| Field | Description |
|----------------------------------|---|
| Total Access-Accept sent | Total number of IPSG RADIUS Access-Accept messages sent. |
| Total Access-Reject sent | Total number of IPSG RADIUS Access-Reject messages sent. |
| Total UNKNOWN req rcvd | Total number of unknown request messages received. |
| Total Response sent | Total number of RADIUS accounting response messages sent. |
| Total Sessions Replaced | Total number of sessions replaced. |
| Total Discarded | Total number of messages discarded. |
| Mandatory Attr Missing | Total number of messages discarded because of missing mandatory attribute. |
| Interim For Non-Existing Session | Total number of RADIUS Accounting-Interim messages discarded, when there is no session existing. |
| Stop For Non-Existing Session | Total number of RADIUS Accounting-Stop messages discarded, when there is no session existing. |
| Unknown Client | Total number of messages discarded because they were received from an unknown client. |
| Interconnect shared secret | Total number of RADIUS requests discarded, because the shared secret was incorrect. |
| Stale Packets | Total number of stale Create Session Request packets discarded. |
| Service Not Supported | Total number of messages discarded due to service not being supported. |
| No Resource | Total number of messages discarded due to resource unavailability. |
| Internal Error | Total number of messages discarded due to internal errors. For example, when Demux fails to send notification to SessMgr, and other unexpected internal scenarios. |
| License Limit Exceeded | Total number of messages discarded due to license limit getting exceeded. |
| Service Limit Exceeded | Total number of messages discarded due to service limit for maximum number of sessions getting exceeded. |
| Congestion Policy Applied | Total number of messages discarded due to Congestion Policy. |
| DHCP Message Discarded | Total number of DHCP messages discarded by the IPSG service. It is the sum of all DHCP discard reasons. |
| MAX Size Exceeded | Total number of DHCP messages discarded by IPSG service due to maximum size exceeding. Maximum DHCP message size supported by IPSG service is (DHCP_MESSAGE_MAX_SIZE 1000 + UDP_HEADER_LEN 8 + IP_HEADER_LEN 20). |

| Field | Description |
|----------------------------|---|
| Non-Existing Session | Total number of DHCP messages ignored by IPSG since they were received for non-existing sessions. |
| GiAddr Mismatch | Total number of DHCP messages discarded by IPSG due to GiAddr field (Relay agent addr) not matching IP in DHCP message. |
| Unsupported HW Type/Length | Total number of messages discarded by IPSG due to congestion policy. |



CHAPTER 72

show ipv6

This chapter describes the outputs of the **show ipv6** command.

- [show ipv6 interface summary, on page 1381](#)
- [show ipv6 neighbors, on page 1382](#)
- [show ipv6 pool summary, on page 1383](#)
- [show ipv6 pool verbose, on page 1384](#)
- [show ipv6 route, on page 1385](#)

show ipv6 interface summary

Table 345: show ipv6 interface summary Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Intf name | Interface name |
| Intf Type | Interface type |
| Description | |
| Router Advertisement | Displays whether the system is sending router advertisements. Options are either enabled or disabled. |
| IP State | Displays the IP state (UP/DOWN) and binding detail |
| MTU | The subscriber's maximum transmission unit (MTU) size in octets. |
| IPv6 Link-Local Address: | Displays the IPv6 link-local address |
| IPv6 Global Unicast Address: | Displays the ipv6 Global Unicast Address address |

show ipv6 neighbors

Table 346: show ipv6 neighbors Command Output Descriptions

| Field | Description |
|--------------|--|
| Address | IPv6 address from table |
| Type | Interface type: <ul style="list-style-type: none"> • Broadcast (Ethernet) • Loopback |
| Link address | MAC address |
| Flags | One of the following flag codes: <ul style="list-style-type: none"> • I = Incomplete • R = Reachable • M = Permanent • S = Stale • D = Delay • P = Probe • F = Failed |
| Interface | Interface name |

show ipv6 pool summary

Table 347: show ipv6 pool summary Command Output Descriptions

| Field | Description |
|------------------|---|
| Type | <p>Identifies the type of IP address pool.</p> <p>(P) - Public: Indicates that the pool is comprised of public IP addresses.</p> <p>(R) - Private: Indicates that the pool is comprised of private IP addresses.</p> <p>(S) - Static: Indicates that the pool is comprised of statically assigned IP addresses.</p> <p>(E) - Resource: Indicates that the pool is comprised of resource IP addresses.</p> <p>(N) - NAT: Indicates that the pool is comprised of NAT IP addresses.</p> |
| State | <p>Identifies the state of the IP address pool.</p> <p>(G) - Good: Indicates that the pool is ready to provide addresses.</p> <p>(D) - Pending Delete: Indicates that the pool is in the process of being deleted.</p> <p>(R) - Resizing: Indicates that the pool is in the process of being resized.</p> <p>(I) - Inactive: Indicates that the pool is not being used.</p> |
| Priority | Specifies the priority use of a public or private pool. Pools with lower priority numbers are used first. |
| Busyout | Indicates whether or not the pool has been configured for busyout. |
| Pool Name | Identifies the name of the IP address pool. |
| Start Prefix | Identifies the starting IPv6 prefix of the pool. |
| End Prefix | Identifies the ending IPv6 prefix of the pool. |
| Used | Specifies the number of IP addresses currently in use. |
| Avail | Specifies the number of IP addresses currently available for use. |
| Total Pool Count | Specifies the total number of IP address pools in the summary. |

show ipv6 pool verbose

Table 348: show ip pool verbose Command Output Descriptions

| Field | Description |
|--|---|
| Pool Name | Name of the IPv6 pool. |
| Group Name | Identifies the group to which the IP pool belongs. |
| Pool Type | Specifies the Type of IPv6 pool (Public, Private, Static, Resource) and its Priority (0 = highest, 10 = lowest). |
| Pool Status | Identifies the status of the group. Good: Indicates that the pool is ready to provide addresses. Pending Delete: Indicates that the pool is in the process of being deleted. Resizing: Indicates that the pool is in the process of being resized. Inactive: Indicates that the pool is not being used. |
| Start Prefix | Identifies the starting prefix of the pool. |
| End Prefix | Identifies the ending prefix of the pool. |
| Total Prefix Used Prefix Free Prefix | Total number of IPv6 prefixes with Used and Free sub-categories. |
| Pool Address Type | Type of IPv6 address pool. |
| Configured Prefix | |
| Busy-Out Range | Range of IPv6 addresses that have been busied out. |
| Total Busy-Out usage | |
| Used Free | Number of busy-out ranges currently being Used or Free. |
| NextHop Forwarding Address | Identifies the IP address of the next hop gateway where a subscriber that is assigned an IP address from this pool is forwarded. Status = Enabled or Disabled |
| Suppress-Switchover-ADVS | Identifies if the ability to suppress corresponding gratuitous ARP generation when a line card switchover occurs is enabled or disabled for this pool. Status = Enabled or Disabled |

| Field | Description |
|------------------------------------|---|
| Allow-Static-Allocation | Indicates whether IP pool configured to allow static allocation of IP address or not. Status = Enabled or Disabled |
| Duplicate-Addr-Detection | Indicates whether or not a unicast IPv6 address will initiate an internal test for the uniqueness of its address using ICMPv6 type 135 and 136 messages. Status = Enabled or Disabled |
| Group Available Threshold Clear | Specifies the low threshold IP pool utilization percentage that must be met or passed within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled |
| Pool-Free Threshold Clear | Specifies the low threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled |
| Pool-Used Threshold Clear | Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled |

show ipv6 route

Table 349: show ipv6 route Command Output Descriptions

| Field | Description |
|-------------|--|
| Destination | Designating ipv6 address prefix/length |

| Field | Description |
|-------------------|---|
| Next hop | Address of the directly connected next hop interface |
| Protocol | Connected Unconnected |
| Prec | Number of precedence bits set |
| Cost | Number of router hops to destination address |
| Interface | Name of the next hop interface |
| Total Route Count | Total number of routes Number connected Number of static routes |



CHAPTER 73

show lawful-intercept

This chapter includes the **show lawful-intercept** command output tables.

- [show lawful-intercept statistics, on page 1387](#)

show lawful-intercept statistics

Table 350: show lawful-intercept statistics Command Output Descriptions

| Field | Description |
|---------------------------------|---|
| Total currently active LI calls | The total number of calls on which Lawful Intercept is currently being performed. |
| Total current camp-on triggers | The total number of LI sessions |
| Total event packets sent | The total number of LI event packets sent. |
| Total event packets dropped | Specifies the total number of event packets dropped and the reason they were dropped: <ul style="list-style-type: none">• no tcp connection with mediation:• src-ip-addr not configured: Total number of event packets dropped because there was no source IP address configured for the LI session. |
| Total content packets dropped | Specifies the total number of content packets dropped and the reason why they were dropped: <ul style="list-style-type: none">• no tcp connection with mediation:• src-ip-addr not configured:• LI-context mis-configured: |
| Current event packets sent | |
| Current content packets sent | |

| Field | Description |
|-------------------------------------|---|
| Total LI provisioning stats | <p>This section provides details on Lawful Intercept provisioning statistics:</p> <ul style="list-style-type: none"> • via active-only method: • via camp-on method: |
| Total LI provisioning failure stats | <p>This section provides details on Lawful Intercept provisioning failure statistics:</p> <ul style="list-style-type: none"> • LI-context not configured: • src-ip-addr not configured: • src-ip-addr mis-configured: |
| Total LI session termination stats | <p>This section provides details on Lawful Intercept session termination statistics:</p> <ul style="list-style-type: none"> • due to call disconnect: The total number of LI session which were terminated due to a call disconnect. • due to deletion of context: The total number of LI sessions which were terminated due to a context being deleted. • due to de-provisioning: The total number of LI sessions which were terminated due to de-provisioning of the LI service. |
| Total LI sess recovery stats | <p>This section provides details on Lawful Intercept session recovery statistics:</p> <ul style="list-style-type: none"> • recovery performed: The total number of LI sessions on which session recovery was performed. |
| LI buffering stats | <p>SGSN service only. This section provides details statistics for the Lawful Intercept buffering function:</p> <ul style="list-style-type: none"> • Total number of buffers: The total number of buffers available for the Lawful Intercept service. • number of free buffers: The total number of buffers available for the LI service. • number of used buffers: The total number of buffers in use by the LI service. • Total event packets dropped: Specifies the reasons for an LI event packet being dropped. • due to buffer overflow: The total number of event packets dropped due to an LI buffer overflow. • due to memory failures: The total number of event packets dropped due to LI memory failures. • due to configuration changes: The total number of event packets dropped due to configuration changes. • Total number of failures detected: The total number of LI buffering failures detected for all reasons. |



CHAPTER 74

show license

- [show license all](#), on page 1389
- [show license info](#), on page 1390
- [show license smart-tags](#), on page 1391
- [show license statistics](#), on page 1391
- [show license summary](#), on page 1393

show license all

Table 351: show license all Command Output Descriptions

| Field | Description |
|------------------------|---|
| Smart Licensing Status | Display info of the device status like: <ul style="list-style-type: none">• Enabled or Disabled• Registration Status, EVALUATION or REGISTERED mode• Smart Account, registered with which smart account• Virtual Account, registered with which virtual account• Time of registration• Next renewal time• When current registration will expire |

| Field | Description |
|---------------------|--|
| License Usage | <p>Displays both the license name and the human readable portion of the entitlement tag in the following format:</p> <ul style="list-style-type: none"> LICENSE_NAME (readable tag portion): The LICENSE_NAME is the license name the customer sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. Description: This is the license description user can sees on the CSSM. This description is only available to the agent after registration because it is sent to the agent from the CSSM. Version of the license The count that is in use Status of the license |
| Product Information | <p>Displays device-specific information, including:</p> <ul style="list-style-type: none"> Product ID Serial Number Version ID |
| Agent Version | Displays which version of Smart Licensing agent is running on the product. |

show license info

Table 352: show license info Command Output Descriptions

| Field | Description |
|--------------------|--|
| Chassis Throughput | Indicates the committed chassis throughput of the chassis. |
| Comment | Comment line for appropriate license key information |
| Device 1 | Model and Serial number for device running license. |
| Device 2 | Same as Device 1 or Unspecified |
| Issued | Date license issued |
| Expires | Date license expires |
| Issued by | License issuing authority |

| Field | Description |
|-------------------------------------|---|
| Key number | License key number |
| Enabled features | Lists applications enabled by the license |
| Session limits | Shows maximum number of sessions and the session type permitted by this license |
| Unknown Items | Shows any unknown items |
| Status | Shows the following: <ul style="list-style-type: none"> • Device 1: status match • Device 2: status match License status: <ul style="list-style-type: none"> • Expired/Not Valid (in grace period) Grace Period Ends: end date |
| System SW - Base Throughput License | Indicates the System SW - Base Throughput License details per Gbps. |

show license smart-tags

Table 353: show license smart-tags Command Output Descriptions

| Field | Description |
|------------------------|--|
| Tag-Id | Displays Id of each service or on/off entitlement tag. |
| Feature / Service | Displays type of service or on/off feature. |
| Smart Entitlement Tags | Displays entitlement tag unique to each service or on/off feature. |

show license statistics

Table 354: show license statistics Command Output Descriptions

| Field | Description |
|------------------------|--|
| Smart Licensing Status | Displays whether Smart License is Enabled or Disabled. |
| Smart Licensing Mode | Displays whether the device is in EVALUATION or REGISTERED mode. |

| Field | Description |
|--------------------------|--|
| Total SL Enabled | Indicates total number of times Smart License enabled on this device. |
| Total SL Disabled | Indicates total number of times Smart License disabled on this device. |
| Report License Usage | Indicates if the timer is running for reporting license usage to CSSM |
| List of Timer Intervals | <p>Different types of timers.</p> <ul style="list-style-type: none"> • Report License Usage – When this timer expires the current license usage change only will be reported to CSSM. • Enforce Policy – This is not used as of now (ignore). • OOC Retry – When this timer expires it reports to CSSM aggressively with current license usage even if the usage count is not changed. |
| SLMGR - SLAGENT Messages | Indicates different types of message exchanged between internal process, this is only for debugging purpose for developers. |
| Event Notification Stats | Indicates different types of events received between internal process, this is only for debugging purpose for developers. |
| Service Level Stats Mode | <p>Indicates is service level stats for EVALUATION and REGISTERED mode.</p> <ul style="list-style-type: none"> • TagId - Displays Id of each service or on/off entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • CurCallCnt – Current number of calls reported to CSSM • MaxCallCnt - Max number of calls reported to CSSM • LastLicCnt – Last reported number of Licenses usage to CSSM • MaxLicCnt – Max license usage reported to CSSM • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PChgAllow – Number of times the particular tag policy changed to ALLOW • PChgBlock – Number of times the particular tag policy changed to BLOCK • PChgBounce – Number of times the message to demux to policy change has bounced |

| Field | Description |
|--------------------------|--|
| Feature Level Stats Mode | <p>Indicates is feature level stats for EVALUATION and REGISTERED mode.</p> <ul style="list-style-type: none"> • TagId - Displays Id of each service or on/off entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • Grace – time to expire grace period (grace*feature_report_time = in minutes) • Status – Current status of feature enabled or disabled • Once – Did this feature enabled atleast once? • Track – Multiple CLI can map same License needs tracking • Usage – Total CLI's using same license • EnableCnt – Number of times this feature is enabled • DisableCnt – Number of times this feature is disabled • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PReqAllow – Number of times the particular tag policy requested to ALLOW • PReqBlock – Number of times the particular tag policy requested to BLOCK |

show license summary

Table 355: show license summary Command Output Descriptions

| Field | Description |
|-----------------|---|
| License | Displays is the license name the user sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. This field will be truncated to 23 letters and '...' added if it is too long.. |
| Entitlement Tag | Displays the human readable portion of the entitlement tag and is always available. This field will be truncated to 25 letters and '...' added if it is too long. |
| Count | The count that is in use. |
| Status | Status of the license. |



CHAPTER 75

show linecard

This chapter describes the outputs of the **show linecard** command. This command is only supported on the ASR 5000.

- [show linecard table, on page 1395](#)

show linecard table

Table 356: show linecard table Command Output Descriptions

| Field | Description |
|-----------|--|
| Slot | <p>Displays the chassis slot number and type. The slot type represents the type of card(s) that the slot supports. Possible slot types are: Ethernet 10/100, Ethernet 1000 line card, four-port Quad Gig-E (QGLC) line card (ASR 5000 only), and the 10 Gigabit Ethernet Line Card (XGLC) *</p> <p>Possible slot numbers are: 17 through 23, 26 through 39, and slots 42 through 48</p> <p>*The XGLC is a full-length line card. It only fits in upper slots 17 through 23 and 26 through 32. Slots 24 and 25 would support the Switch Processor Input/Output (SPIO) card associated for the XGLC.</p> |
| Card Type | <p>Displays the type of card installed. The possible card types supported for this release are: Ethernet 10/100 Line Card, Ethernet 1000 Line Card (QGLC), 10 Gig Ethernet Line Card (XGLC), Switch Processor Input/Output Card.</p> |

| Field | Description |
|------------|---|
| # Ports | <p>Displays the maximum number of physical ports supported per card.</p> <ul style="list-style-type: none"> • The Ethernet 10/100 Line Card supports 8 ports. • The Ethernet 1000 Line Card supports 1 port. • The Quad Gig-E (QGLC) Line Card supports 4 ports • The 10 Gig Ethernet Line Card (XGLC) supports 1 port • The Switch Processor Input/Output Card supports 2 ports. |
| Oper State | <p>Displays the operational state of the card. The possible operational states are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that it is not completely installed (i.e. the card interlock switch is not locked, refer to the <i>System Installation Guide</i> for information on installing cards in the system) or that its processes have been halted. |
| SPOF | <p>Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is an SPOF, then a Yes will appear in this column. If not, a No will be displayed.</p> |
| Attach | <p>Displays the PACs/PSC/PSC2s and SPCs/SMCs that the line cards are being associated with.</p> |



CHAPTER 76

show link-aggregation

This chapter describes the outputs of the **show link-aggregation** command. These outputs are associated with a specified Link Aggregation Group (LAG).

- [show link-aggregation info](#), on page 1397
- [show link-aggregation lacp info](#), on page 1398
- [show link-aggregation statistics](#), on page 1398
- [show link-aggregation table](#), on page 1399

show link-aggregation info

Table 357: show link-aggregation info Command Output Descriptions

| Field | Description |
|---|--|
| Group info for group number = <value> (LAG group id - <group_id>) | |
| group state | Alphanumeric string indicating the current state of this LAG. |
| number of ports | Number of physical ports in this group. |
| number of masters | Number of master ports in this group. |
| min-link (ASR 5500 only) | Minimum number of links that must be available without causing a LAG switchover. |
| mode | Indicates redundant or non-redundant mode. |
| active master | Hexadecimal identifier/slot-port number of the active master port. |
| sysmac | MAC address assigned by the system to the LAG. |
| sysprio | System priority. |

show link-aggregation lacp info

Table 358: show link-aggregation lacp info Command Output Descriptions

| Field | Description |
|--|--|
| LACP info for group number = <value> (LAG group id - <group_id>) | |
| Rx Counters | Number of LACP frames received from the peer network device. |
| Tx Counters | Number of LACP frames sent to the peer network device. |

show link-aggregation statistics

Table 359: show link-aggregation statistics Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| Counters for LAG group <number>: | |
| Line Card <card_identifier> | |
| Rx Counter | |
| Bytes | Total number of bytes received from the peer network device. |
| Unicast frames | Total number of Unicast frames received from the peer network device. |
| Multicast frames | Total number of Multicast frames received from the peer network device. |
| Broadcast frames | Total number of Broadcast frames received from the peer network device. |
| Data | Count of bytes/frames received. |
| Tx Counter | |
| Bytes | Total number of bytes sent to the peer network device. |
| Unicast frames | Total number of Unicast frames sent to the peer network device. |
| Multicast frames | Total number of Multicast frames sent to the peer network device. |
| Broadcast frames | Total number of Broadcast frames sent to the peer network device. |
| Data | Count of bytes/frames sent. |

show link-aggregation table

Table 360: show link-aggregation table Command Output Descriptions

| Field | Description |
|-----------|---|
| Grp | LAG number. |
| Port | Interface slot/port number of group member. |
| Type | Group type. |
| Admin | Current administrative state – Enabled or Disabled. |
| Oper | Current operational state – Up or Down. |
| Link | Current link state – Up or Down. |
| State | Current LAG state – Active or Standby. |
| Pair | Interface slot/port number of LAG peer port. LAG Port Status: <ul style="list-style-type: none"> • LA+ = Port is actively used for distributing • LA- = Port failed to negotiate LACP • LA~(tilde) = Port negotiated LACP but another peer was selected • LA*(asterisk) = Port is (re)negotiating LACP • LA# = Port has been gone down because the min-link criteria is not met (ASR 5500 only) |
| Redundant | Interface slot/port number of redundant LAG peer port. |



CHAPTER 77

show linkmgr

- [show linkmgr](#), on page 1401

show linkmgr

This table provides information for counters displayed in the output of the SGSN **show linkmgr { all | instance } [parser statistics]** command.

Table 361: show linkmgr instance <#> parser statistics all Command Output Descriptions

| Field | Description |
|-------------------|--|
| Decode Statistics | For a given link manager instance, the decode statistics includes: <ul style="list-style-type: none">• Decode Success• Decode Failure |
| Decode Success | Total number of messages for which protocols were decoded successfully by the link manager parser to retrieve the de-multiplexing key. |
| Decode Failures | Total number of messages for which the link manager parser failed to successfully decode the protocols to retrieve the de-multiplexing key. |

| Field | Description |
|--------------------|--|
| Demux Key | <p>The link manager parser extracts de-multiplexing key from the incoming Signaling Connection Control Part (SCCP) message or SCCP payload. Following are the categories of demux key:</p> <ul style="list-style-type: none"> • IMSI • P-TMSI (local) • P-TMSI (non-local) • SSN • HLR Reset • SCCP DLR • TCAP DTID • XUDT LRN & OPC • TLLI (non-local) |
| IMSI | Total number of instances when the de-multiplexing key that is being used for parsing is International Mobile Subscriber Identity (IMSI). |
| P-TMSI (Local) | <p>Packet Temporary Mobile Subscriber Identity (P-TMSI) is assigned by the SGSN to UE to avoid transmission of TMSI over the air.</p> <p>Total number of instances where the de-multiplexing key used for parsing is local P-TMSI.</p> |
| P-TMSI (Non Local) | Total number of instances where the de-multiplexing key used for parsing is non- local P-TMSI. |
| SSN | <p>A Sub System Number (SSN) identifies a specific user function provided by an Signalling Connection Control Part (SCCP) node.</p> <p>Total number of instances where the de-multiplexing key used for parsing is the Sub System Number (SSN) associated with the message.</p> |
| HLR Reset | <p>Link manager uses the messenger based communication for all the messages except for HLR Reset. The HLR Reset messages are forwarded using CCPU TAPA driver task.</p> <p>Total number of instances where the de-multiplexing key used for parsing is HLR Rest message.</p> |
| SSCP DLR | <p>The Destination Local Reference (DLR) used by the SCCP connection oriented service.</p> <p>Total number of instances where the de-multiplexing key used for parsing is SSCP DLR.</p> |

| Field | Description |
|------------------|--|
| TCAP DTID | <p>Transaction Capacities Application Part (TCAP) is a protocol that is used to support Mobile Application Part (MAP). The MAP is used to exchange the control plane traffic between SGSN and HLR.</p> <p>Total number of instances where the de-multiplexing key used for parsing is the Transaction Capability Application Part Destination Id (TCAPDTID).</p> |
| XUDT, LRN & OPC | <p>eXtended Unit Data Message (XUDT), Local Reference Number (LRN) and Originating Point Code (OPC). These are the components of SSCP and Signaling System 7 architecture.</p> <p>Total number of instances where the de-multiplexing key used for parsing is XUDT, LRN and OPC associated with the message.</p> |
| TLLI (Non Local) | <p>Temporary Logical Link Identity (TLLI), is an identity used during the PDP session for identifying the MS on Um and Gb interface.</p> <p>Total number of instances where the de-multiplexing key used for parsing is the non-local Temporary Logical Link Identity (TLLI).</p> |
| TLLI (Local) | <p>Temporary Logical Link Identity (TLLI), is an identity used during the PDP session for identifying the MS on Um and Gb interface.</p> <p>Total number of instances where the de-multiplexing key used for parsing is the non-local Temporary Logical Link Identity (TLLI).</p> |
| SMGR Instance | <p>Total number of instances where the de-multiplexing key used for parsing is the session manager instance associated with the message.</p> |

| Field | Description |
|--------------------------|--|
| Memory (Mem cache usage) | <p>Memory cache or memory buffer usage describes the memory that is being used by link manager parameters. The memory buffer usage comprises:</p> <ul style="list-style-type: none"> • Block size • Number of blocks • Total • Free • numAlloc <p>Memory cache is being used by following link manager parameters:</p> <ul style="list-style-type: none"> • LRN OPC table entry • LRN OPC entry • IMSI MGR Pending entry • Iups entry • RNC entry • RAI entry • PLMN entry • TLLI mapping entry • IMSI mapping entry • SGSN-EMPCR entry |
| LRN OPC table entry | Local Routing Number (LRN) Originating Point Code (OPC), as per memory cache table entry. |
| LRN OPC entry | Local Routing Number (LRN) Originating Point Code (OPC) entry. |
| IMSI MGR Pending entry | Memory used by pending IMSI manager application. |
| Iups entry | Iu is the interface between Radio Network Subsystem (RNS) and core network. This is the memory used by Iups interface. |
| RNC entry | Memory used by the Radio Network Controller (RNC) entry. |
| RAI entry | Memory used by Routing Area Identity (RAI) entry. |
| PLMN entry | Memory used by Public Land Mobile Network (PLMN) entry. |
| TLLI mapping entry | Memory used by Temporary Logical Link Identity (TLLI) mapping entry. |

| Field | Description |
|--------------------|---|
| IMSI mapping entry | Memory used by IMSI mapping entry. |
| SGSN-EMPCR entry | Memory used by SGSN-EMPCR entry. |
| Mbuf Counters | Total number of memory buffer counters, such as memory buffer overflows, associated with link manager parser instance. |
| Buffer Over flow | Total number of memory buffer overflows associated with this instance of link manager. |
| Messenger Counters | Link manager parser statistics includes message counters, indicating the messages that are being exchanged between link manager application and following manger applications: <ul style="list-style-type: none">• IMSI manager• Link manager• Master manager• ALCAP manager• HNB manager• Session manager |

| Field | Description |
|---------------------------|---|
| IMSI Manager | <p>Link manager parser statistics includes following message counters related to IMSI Manager:</p> <ul style="list-style-type: none"> • Forward requests sent • Forward requests queued • Forward response received • Forward requests d-queued • Forward request bounced • Query requests sent • Query requests queued • Query requests d-queued • Query requests bounced • Query success responses • Query failure responses • Bulk requests sent • Bulk requests received • Pending queue length • Pending queue hardware • Pending attach dropped • Pending RAU dropped • Pending attach / RAU length |
| Forward Request Sent | Total number of forward requests sent to IMSI manager. |
| Forward Request Queued | Total number of forward requests queued for sending to IMSI manager. |
| Forward Response Received | Total number of forward responses received from IMSI manager. |
| Forward Request De-queued | Total number of forward request removed from the queue of the requests that are being sent to IMSI manager. |
| Forward Request Bounced | Total number of forward request that were bounced from the IMSI. |
| Query Request Sent | Total number of query requests sent to IMSI manager. |
| Query Request Queued | Total number of query requests queued for sending to IMSI manager. |

| Field | Description |
|---------------------------------|---|
| Query success response | Total number of successful query responses received from IMSI manager. |
| Query request de-queued | Total number of query requests removed from the queue of the requests that are being sent to IMSI manager. |
| Query failure response | Total number of query failure response messages received from IMSI manager. |
| Query request bounced | Total number of query requests that were bounced by the IMSI manager. |
| Bulk request sent | Total number of bulk requests sent to IMSI manger. |
| Bulk response received | Total number of bulk response messages received from IMSI manger. |
| Window Size | The size of message window between link manger and IMSI manager instances. |
| Pending Attach dropped | Total number of pending attach requests dropped by IMSI manager. |
| Pending RAU dropped | Total number of pending Routing Area Updates (RAUs) dropped by IMSI manger. |
| Pending Attach/RAU queue length | The queue length of the pending attach and pending RAU messages that is being sent to IMSI manager. |
| Link Manager | <p>The link manager can handle following categories of signaling traffic:</p> <ul style="list-style-type: none"> • SIGTRAN • Broadband • Narrow band • Gb over IP • Frame Relay <p>Link manager parser statistics includes following parameters related to messages that are being broadcast using this link manager instance:</p> <ul style="list-style-type: none"> • Broadcast sent • Broadcast received • Broadcast successful response received • Broadcast response received • Broadcast failure response received. |

| Field | Description |
|-------------------------------------|---|
| Broadcast sent | Total number of broadcast messages sent by link manager instance. |
| Broadcast received | Total number of broadcast messages received by link manager instance. |
| Broadcast success response sent | Total number of messages sent by the link manager that indicate successful broadcast response. |
| Broadcast failure response received | Total number of broadcast failure messages received from the link manager. |
| Master Manager | Link manager parser statistics includes following parameters that are related to master manager. <ul style="list-style-type: none"> • Messages sent |
| Messages sent | Total number of messages sent to Master manager. |
| ALCAP Manager | Link manager parser statistics includes following parameters that are related to ALCAP manager. <ul style="list-style-type: none"> • Messages sent |
| Messages sent | Total number of messages sent to ALCAP manager. |
| HNB Manager | Link manager parser statistics includes following parameters that are related to Home NodeB (HNB) manager. <ul style="list-style-type: none"> • Messages sent |
| Messages sent | Total number of messages sent to HNB manager. |
| Session Manager | Link manager parser statistics includes following parameters that are related to session manager. <ul style="list-style-type: none"> • Messages sent |
| Messages sent per instance | Number of active link manger instances depends upon processing capacity of the PSC cards. These are total number of messages sent per each active instance of the link manager. |
| NPU Flash Counters | Total number of NPU flash counters associated with this instance of link manager parser. |
| Messages flushed due to tile limit | Total number of link manager messages flushed due to tile limit. |
| Messages flushed due to max packets | Total number of link manager messages flushed due to maximum number of packets. |

| Field | Description |
|-------------------------|---|
| SCCP | <p>The Signaling Connection Control Part (SCCP) is a network layer protocol. It is used by Signaling System 7 (SS7) networks, to provide extended routing, flow control, segmentation, connection orientation and correction facilities.</p> <p>Link manager parser statistics includes SCCP message parameters such as:</p> <ul style="list-style-type: none"> • Connection request (CR) • Connection confirm (CC) • Release Confirm (RLC) • Data Form 1 (DT1) • Unit Data (UDT) • Extended Unit Data (XUDT) |
| Connection Request (CR) | <p>In SS7 architecture, for a connection based transaction, a connection is requested using the SCCP Connection Request (CR) message. This message is sent by a calling SCCP to the called SCCP. The CR message parameters indicate various signaling characteristics. This message is used during connection establishment phase by connection oriented protocol class 2 or 3.</p> <p>Link manager parser statistics includes following parameters related with Connection Request (CR) message:</p> <ul style="list-style-type: none"> • rxCount • Empty message • Called party absent • Un supported SSN • IE missing |
| rxCount | Total number of rx bytes sent by calling to called SCCP. |
| Empty Message | Total number of empty messages sent by calling to called SCCP. |
| Called Party Absent | Total number of messages sent from calling to called SSCP. These messages indicate absence of originating signaling point or SCCP node. |
| Unsupported SSN | <p>A Sub System Number (SSN) identifies specific user function provided by SCCP node.</p> <p>These are total number of messages containing un-supported SSN, that are being sent from calling to called SCCP.</p> |

| Field | Description |
|-------------------------|---|
| IE Missing | These are total number of messages with missing Information Elements (IEs). These messages are being sent from calling to called SCCP. |
| Connection Confirm (CC) | The Connection Confirm (CC) message is sent by called SCCP to calling SCCP to indicate that it has performed the set-up for signaling connections. This message is used during connection establishment phase by connection oriented protocol class 2 or 3. Link manager parser statistics includes following parameters related with Connection Confirm (CC) message: <ul style="list-style-type: none"> • rxCount • IE missing |
| rxCount | Total number of rx bytes sent by called to calling SCCP. |
| IE Missing | These are total number of messages with missing Information Elements (IEs). These messages are being sent from called to calling SCCP. |
| Release confirm (RLC) | A Release message is sent in backward as well as forward direction, to indicate that the sending SCCP node, wants to release the signaling connection and associated resources. The Release Confirm or Release Complete (RLC) message is sent in response to such Release message, indicating that the Release message has been received and relevant procedures have been performed. Link manager parser statistics includes following parameters related with Release Confirm (RLC) message: <ul style="list-style-type: none"> • rxCount • DLR Key • IE Missing |
| rxCount | Total number of Rx bytes sent by SCCP that are associated with RLC message. |
| DLR Key | The Destination Local Reference (DLR) associated with the RLC message. |
| IE Missing | These are total number of messages with missing Information Elements (IEs). These messages are being sent from called to calling SCCP. |

| Field | Description |
|-------------------|--|
| Data form 1 (DT1) | <p>A Data Form 1 (DT1) message is sent by any of the two communicating SCCP nodes, to transparently pass the SCCP user data amongst them. The DT1 message is used during the data transfer phase in protocol class 2 only.</p> <p>Link manager parser statistics includes following parameters related with Data form 1(DT1) message:</p> <ul style="list-style-type: none"> • rxCount • DLR key • IE missing |
| rxCount | Total number of Rx bytes sent by SCCP that are associated with DT1 message. |
| DLR Key | The Destination Local Reference (DLR) associated with the DT1 message. |
| IE Missing | Total number of missing information Elements (IEs) associated with DT1 message. |
| Unit Data (UDT) | <p>A Unit Data (UDT) message is used by an SCCP node to indicate that it wants to transmit data in connection less mode. UDT messages are mostly used for Transaction Capabilities Application Part (TCAP) communication with Intelligent Network (IN) services. This message is used in connection-less protocol classes 0 and 1.</p> <p>Unit data includes following parameters:</p> <ul style="list-style-type: none"> • rxCount • Management message • Called party absent • Unsupported SSN • IE Missing • Bssap+ SSN Msg |
| rxCount | Total number of Rx bytes sent by SCCP that are associated with UDT message. |
| Management Msg | <p>Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure.</p> <p>Total number of management messages associated with the UDT message.</p> |

| Field | Description |
|-------------------------|---|
| Called Party Absent | <p>The called party absent message implies that not enough information is available to uniquely identify destination signaling point or SCCP access point.</p> <p>Total number of called party absent messages associated with UDT message.</p> |
| Unsupported SSN | <p>A Sub System Number (SSN) identifies specific user function provided by SCCP.</p> <p>These are total number of messages associated with UDT message and contain un-supported SSN.</p> |
| IE Missing | Total number of missing information Elements (IEs) associated with UDT message. |
| Bssap+ SSN Msg | Total number of Base Station Subsystem Application Part + (BSSAP+) SSN messages associated with UDT message. |
| Management Message Type | <p>Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure.</p> <p>Link manager parser statistics includes following categories of management messages:</p> <ul style="list-style-type: none"> • SSA • SSP • SST • SOR • SOG • SSC |
| SSA | <p>A Sub System Allowed (SSA) message to indicate that the sub system that was formerly prohibited or the SCCP node that was formerly not accessible is now available.</p> <p>These are total number of SSA messages associated with the link manager parser instance.</p> |
| SSP | <p>A Sub System Prohibited (SSP) message is sent to concerned destination to inform SSCP Management (SCMG) about sub system failure. The receiving SCCP can update its translation tables to re-route the traffic.</p> <p>These are total number of SSP messages associated with the link manager parser instance.</p> |

| Field | Description |
|---------------------------|--|
| SST | <p>A Sub System Test (SST) message is sent to verify the status of the sub system that was previously prohibited or the SCCP node that was previously unavailable.</p> <p>These are total number of SST messages associated with the link manager parser instance.</p> |
| SOR | <p>A Subsystem Out of service Request (SOR) is used by the sub systems to remain out of service without degrading the network performance. SOR is used to transmit the out of service request of the subsystem between SCCPs at the sub system and duplicate subsystem nodes.</p> <p>These are total number of SOR messages associated with the link manager parser instance.</p> |
| SOG | <p>A Subsystem Out of service Grant (SOG) message is sent to the requesting SCCP, in response to an SOR message. The SOG message is sent if both the requested SCCP and backup of the affected sub system agree to owner the request.</p> <p>These are total number of SOG messages associated with the link manager parser instance.</p> |
| SSC | |
| Extended Unit Data (XUDT) | <p>The SCCP segments an application layer message in into multiple or eXtended UDT messages, when it is not possible to send the application layer message in UDT format.</p> <p>Link manager parser statistics includes following parameters related with eXtended Unit Data (XUDT):</p> <ul style="list-style-type: none"> • rxCount • Management message • Called party absent • Unsupported SSN • LRN and OPC key • IE missing |
| rxCount | Total number of Rx bytes sent by SCCP that are associated with XUDT message. |
| Management Msg | <p>Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure.</p> <p>Total number of management messages associated with the XUDT message.</p> |

| Field | Description |
|--------------------------|--|
| Called Party Absent | <p>The called party absent message implies that not enough information is available to uniquely identify destination signaling point or SCCP access point.</p> <p>Total number of called party absent messages associated with unit data message.</p> |
| Unsupported SSN | <p>A Sub System Number (SSN) identifies specific user function provided by SCCP.</p> <p>These are total number of messages associated with XUDT message and contain un-supported SSN.</p> |
| LRN & OPC Key | Total number of Local Reference Number (LRN) and Originating Point Code (OPC) keys associated with XUDT message. |
| IE Missing | Total number of missing information Elements (IEs) associated with XUDT message. |
| RANAP | <p>Radio Access Network Application Part (RANAP) is a network layer protocol used for UMTS signaling between the core network such as MSC or SGSN and UTRAN. It resides in control plane. Link manager parser statistics includes RANAP parameters such as:</p> <ul style="list-style-type: none"> • rxCount • Initial UE message • Reset • Overload control message • Unsupported connection oriented message • Unsupported connection less message • Pegging message • Relocation request message. |
| rxCount | Total number of rxCount messages transmitted between core Network (CN) and Universal Terrestrial Radio Access Network (UTRAN). |
| Initial UE Message | Total number of initial User Equipment messages transmitted between CN and UTRAN. |
| Reset | Total number of reset messages transmitted between CN and UTRAN. |
| Overload Control Message | Total number of overload control messages transmitted between CN and UTRAN. |

| Field | Description |
|---|---|
| Unsupported Connection Oriented Message | Total number of un supported connection oriented messages transmitted between CN and UTRAN. |
| Unsupported Connection-less Message | Total number of un supported connection less messages transmitted between CN and UTRAN. |
| Paging Message | Total number of paging messages transmitted between CN and UTRAN. |
| Relocation Request Message | Total number of paging messages transmitted between CN and UTRAN. |
| RAN information management message | Total number of RAN information management messages transmitted between CN and UTRAN. |
| GMM | <p>Mobility Management (MM) is a means by which a mobile network such as GPRS can keep track of mobile subscriber's location while they are connected to the network. Gprs Mobility Management (GMM) provides mobility management functionality such as GPRS attach, GPRS detach, security, routing area update and location update.</p> <p>The link manager parser statistics includes GMM parameters such as:</p> <ul style="list-style-type: none"> • rxCount • Attach Req • Detach Req • RAU Req • Service Req • Unexpected Msg • IMSI Key • P-TMSI Key |
| rxCount | Total number of bytes received count associated with the link manager parser instance. |
| Attach Req | Total numbers of MS attach requests associated with the link manager parser instance. |
| Detach Req | Total number of MS detaches requests associated with the link manager parser instance. |
| RAU Req | Total number of Routing Area Update (RAU) requests associated with the link manager parser instance. |
| Service Req | Total number of point to point or point to multi-point service requests associated with the link manager parser instance. |

| Field | Description |
|----------------|---|
| Unexpected Msg | Total number of un-expected messages associated with the link manager parser instance. |
| IMSI Key | <p>International Mobile Subscriber Identity (IMSI) is unique identification of a registered subscriber. Mobile Country Code (MCC) Mobile Network Code (MNC) and Mobile Subscriber Identification Number (MSIN) are the IMSI components.</p> <p>Total number of IMSI key associated with this instance of link manager parser.</p> |
| TMSI Key | Temporary International Mobile Subscriber Identity (TMSI) is the identity that is exchanged between MS and network. It is assigned by the VLR when a mobile in its area is switched on. |
| Add P-TMSI Key | <p>Packet Temporary Mobile Subscriber Identity (P-TMSI) is assigned by the SGSN to UE to avoid transmission of TMSI over the air.</p> <p>Total number of additional P-TMSI keys associated with this instance of link manager parser.</p> |

| Field | Description |
|-----------|--|
| TCAP | <p>Transaction Capacity Application Part (TCAP) is a protocol that allows the deployment of Intelligent Network (IN) services. This is done by exchanging non-circuit related information between the signaling points using SCCP connection-less service. The TCAP is used for dialog between to sub system components.</p> <p>Link manager parser statistics includes following parameters related with TCAP:</p> <ul style="list-style-type: none"> • rxCount • Unit tag • Begin tag • End tag • Abort tag • Continue tag • HLR reset • Empty begin • Unexpected tag • IMSI key • DTID key • Decode failure • Free dlg count • Forward count • Forward count error |
| rxCount | Total number of Rx bytes transmitted by the signaling point that is associated with a TCAP message. |
| Unit Tag | <p>Unit tag is included in all messages associated with a transaction.</p> <p>Total number of messages with Unit tag that are associated with this instance of link manager.</p> |
| Begin Tag | <p>Begin tag is included in all messages associated with a transaction. A TCAP user can respond with End or Continue message. The begin tag initiates the dialog.</p> <p>Total number of messages with Begin tag those are associated with this instance of link manager parser.</p> |

| Field | Description |
|----------------|--|
| End Tag | <p>The End tag ends an existing transaction, transaction Id is released when end message is received. The End tag indicates last primitive of an existing dialog.</p> <p>Total number of messages with End tag those are associated with this instance of link manager parser.</p> |
| Abort Tag | <p>The Abort tag indicates that an abnormal condition has occurred ending the transaction and releasing all transaction ids.</p> <p>Total number of messages with Abort tag those are associated with this instance of link manager parser.</p> |
| Continue Tag | <p>Continue tag indicates that a TCAP transaction is established and further information exchange is required. A transaction id is allocated and used in all message related to this transaction.</p> <p>Total number of messages with Continue tag those are associated with this instance of link manager parser.</p> |
| HLR Reset | <p>Total number of messages with the radio system re-start indication, that are associated with this instance of link manager parser.</p> |
| Empty Begin | <p>Begin tag is included in all messages associated with a transaction. A TCAP user can respond with End or Continue message.</p> <p>Total number of messages with an empty begins tag that are associated with this instance of link manager parser.</p> |
| Unexpected Tag | <p>Total number of messages exchanged between signaling points that are associated with a tag other than begin and end.</p> <p>Total number of messages with an empty begins tag that are associated with this instance of link manager parser.</p> |
| IMSI Key | <p>International Mobile Subscriber Identity (IMSI) is unique identification of a registered subscriber. Mobile Country Code (MCC) Mobile Network Code (MNC) and Mobile Subscriber Identification Number (MSIN) are the IMSI components.</p> <p>Total number of messages exchanged between the signaling points and associated with IMSI key.</p> |
| T-IMSI key | <p>Temporary Mobile Subscriber Identity (TMSI) is the identity that is most commonly sent between the MS and network.</p> <p>Total number of messages exchanged between the signaling points and associated with Temporary IMSI key.</p> |
| Add P-TMSI Key | <p>The Packet Temporary Mobile Subscriber IDentity (P-TMSI) is a temporary identity issued to the GPRS enabled mobile and is unique within a Routing Area (RA).</p> <p>Total number of messages with additional p-TMSI key.</p> |

| Field | Description |
|-----------------|--|
| DTID Key | Total number of messages associated with TCAP transaction Destination Identifier (DTID). |
| Decode Failure | Total number of messages transmitted between the signaling points that were not decoded. |
| Free Dlg Count | Total number of messages indicating number of free dialog sessions between the subsystem components of TCAP. |
| FWD Count | Total number of messages indicating forwarded dialogues between the subsystem components of TCAP. |
| RCD Count | Total number of messages indicating the received dialogs between the subsystem components of TCAP. |
| FWD Count Error | Total number of messages indicating the errors in the forwarded dialogs between the subsystem components of TCAP. |
| Bssap+ | <p>Base Station System Application Part Plus (Bssap+) protocol. It defines usage of mobile resources when the MS is using GSM Packet Switched (PS) as well as Circuit Switched (CS) services.</p> <p>Link manager parser statistics includes following BSSAP+ parameters:</p> <ul style="list-style-type: none"> • rxCount • Paging request • Down link Tunnel Request • Updated Location Accept • Updated Location Reject • Alert Request • Gprs Detach Indication • Imsi Detach Indication • MS Information Request • Reset Indication • Reset Acknowledgement • MM Information Request • Unknown Message • Unexpected Message • Decode Failure |
| rxCount | Total number of rxCount messages transmitted between SGSN and MS. |

| Field | Description |
|--------------------------|--|
| Paging request | Total number of paging requests transmitted between SGSN and MS. |
| Down link Tunnel Request | Total number of down link tunnel requests transmitted between SGSN and MS. |
| Updated Location Accept | Total number of updated location messages accepted by SGSN. |
| Updated Location Reject | Total number of updated location requests rejected by SGSN. |
| Alert Request | Total number of alert requests transmitted between SGSN and MS. |
| Gprs Detach Indication | Total number of Gprs detach indication messages transmitted between SGSN and MS. |
| Imsi Detach Indication | Total number of IMSI detach indication messages transmitted between MS and SGSN. |
| MS Information Request | Total number of Mobile Station information request messages transmitted between MS and SGSN. |
| Reset Indication | Total number of reset indication messages transmitted between MS and SGSN. |
| Reset Acknowledgement | Total number of reset acknowledgment messages transmitted between MS and SGSN. |
| MM Info Req | Total number of Mobility Management (MM) information request messages transmitted between MS and SGSN. |
| Unknown Message | Total number of unknown category of messages transmitted between MS and SGSN. |
| UnExpected Message | Total number of un expected message i.e. messages not related to mobility management procedures and protocol, transmitted between MS and SGSN. |
| Decode Failure | Total number of decode failure messages transmitted between MS and SGSN. |
| GPRS-NS | <p>The Network Service (NS) transports the NS Service Delivery Units (SDUs) between SGSN and BSS. It also provides network condition as well as status indications.</p> <p>Link manager parser statistics includes following categories of statistics related to GPRS-NS messages:</p> <ul style="list-style-type: none"> • GPRS-NS message forwarding statistics • GPRS-NS message receiving statistics |

| Field | Description |
|---|--|
| GPRS-NS Message Forwarding Stats | GPRS-NS message forwarding statistics includes: <ul style="list-style-type: none"> • Number of messages forwarded to master link manager. • Number of messages forwarded to session manager. |
| Number of messages forwarded to master link Manager | Total number of GPRS-NS messages forwarded to master link manager by this link manager parser instance. |
| Number of messages forwarded to sessmgr | Total number of GPRS-NS messages forwarded to session manager by this link manager parser instance. |
| Number of messages forwarded to imsimgr | Total number of GPRS-NS messages forwarded to IMSI manager by this link manager parser instance. |
| Number of messages forwarded to stack | Total number of GPRS-NS messages forwarded to messaging event stack by this link manager parser instance. |
| GPRS-NS Message Rx Count Stats | GPRS- NS messages reception count statistics includes following messages: <ul style="list-style-type: none"> • NS Unit Data • NS Alive • NS Alive Acknowledgement |
| NS Unit Data | Total number of data units transmitted between SGSN and BSS. |
| NS Alive | Total number of Network System (NS) alive layer messages transmitted between SGSN and BSS. |
| NS Alive Ack | Total number of acknowledgements for NS layer alive message transmitted between BSS and SGSN. |
| BSSGP | The Base Station Subsystem GPRS Protocol (BSSGP) provides radio related QoS and routing information that is required to transmit data between BSS and SGSN. |

| Field | Description |
|------------------|---|
| BSSGP Statistics | <p>The link manager parser statistics related to BSSGP includes following parameters:</p> <ul style="list-style-type: none"> • Count • decode failure • Unknown Msg • Unsupported Msg • Bssgp Msg with non llc payload • Bssgp bvc flow control aggregate bounces • Bssgp bvc flow control aggregate before expiry • Bssgp bvc flow control aggregate max count • Bssgp bvc flow control aggregate send count • Bssgp Udata with local Tlli • Bssgp Udata with non-local Tlli • Bssgp ra-cap-updt with Local Tlli • Bssgp ra-cap-updt with non-Local Tlli • Bssgp rad-status with Local Tlli • Bssgp rad-status with non-Local Tlli • Bssgp suspend with Local Tlli • Bssgp suspend with non-Local Tlli • Bssgp resume with Local Tlli • Bssgp resume with non-Local Tlli • Bssgp flc_ms with Local Tlli • Bssgp flc_ms with non-Local Tlli • Bssgp flush-ack with Local Tlli |
| Count | Total number of BSSGP related messages transmitted between BSS and SGSN and are associated with this instance of link manager. |
| Decode Failure | Total number of BSSGP related messages transmitted between BSS and SGSN that were not decoded. |
| Unknown Msg | Total number of unknown BSSGP messages transmitted between BSS and SGSN that are associated with this instance of link manager. |

| Field | Description |
|--|--|
| Unsupported Msg | Total number of BSSGP messages transmitted between BSS and SGSN and are associated with this instance of link manager, but not supported by it. |
| Bssgp Msg with non llc payload | Total number of BSSGP messages with a payload not related to Logical Link Control (LLC), that are transmitted between BSS and SGSN. |
| Bssgp bvc flow control aggregate bounces | <p>The BSSGP Virtual Connection (BVC) identifies an end to end communication path between BSS and SGSN at the BSSGP layer. A BVC is identified by the BVC Identifier (BVCI).</p> <p>A flow control procedure between BSS and SGSN manages the BSS buffers. In most deployments BSS provisions at least one buffer for each BVC and in some case a buffer for each MS. The flow control procedure avoids down link LLC PDU packet loss.</p> <p>Total number of BSSGP messages related to BSSGP Virtual connection (BVC) flow control, and were bounced during transmission.</p> |
| Bssgp bvc flow control aggregate before expiry | Total number of BSSGP messages related to BVC flow control that are yet to be expired and are being transmitted between BSS and SGSN. |
| Bssgp bvc flow control aggregate max count | This is the maximum number of aggregated BVC flow control messages associated with this instance of link manager. |
| Bssgp bvc flow control aggregate send count | This is the number of aggregated BVC flow control messages sent and were associated with this instance of link manager. |
| Bssgp Udata with local Tlli | Total number of BSSGP unit data messages with local Temporary Logical Link Identity (TLLI), that were associated with this instance of link manager. |
| Bssgp Udata with non-local Tlli | Total number of BSSGP unit data messages with non-local Temporary Logical Link Identity (TLLI), that were associated with this instance of link manager. |
| Bssgp ra-cap-updt with Local Tlli | Total number of Radio Access Capability Update procedure messages with local TLLI, which were associated with this instance of link manager. |
| Bssgp ra-cap-updt with non-Local Tlli | Total number of Radio Access Capability Update procedure messages with non-local TLLI, which were associated with this instance of link manager. |
| Bssgp rad-status with Local Tlli | Total number of messages indicating status of radio communication between the BSS and MS with local TLLI, those were associated with this instance of link manager. |

| Field | Description |
|---|--|
| Bssgp rad-status with non-Local Tlli | Total number of messages indicating status of radio communication between the BSS and MS with non-local TLLI, those were associated with this instance of link manager. |
| Bssgp suspend with Local Tlli | Total number of messages sent by MS with local TLLI, to BSS requesting to suspend the GPRS service. |
| Bssgp suspend with non-Local Tlli | Total number of messages sent by MS with non- local TLLI, to BSS requesting to suspend the GPRS service. |
| Bssgp resume with Local Tlli | Total number of messages sent by MS with local TLLI, to BSS requesting to resume the GPRS service. |
| Bssgp resume with non-Local Tlli | Total number of messages sent by MS with non-local TLLI, to BSS requesting to resume the GPRS service. |
| Bssgp flc_ms with Local Tlli | Total number of messages sent by MS with local TLLI, to BSS that are related to flow control of the GPRS service. |
| Bssgp flc_ms with non-Local Tlli | Total number of messages sent by MS with non-local TLLI, to BSS that are related to flow control of the GPRS service. |
| Bssgp flush-ack with Local Tlli | Total number of flush acknowledgement messages sent by MS with local TLLI, to the BSS. |
| Bssgp flush-ack with non-Local Tlli | Total number of flush acknowledgement messages sent by MS with local non-local TLLI, to the BSS. |
| Bssgp llc-discarded with Local Tlli | Total number of Logical Link Control (LLC) discarded messages sent by MS with local TLLI to the BSS. |
| Bssgp llc-discarded with non-Local Tlli | Total number of Logical Link Control (LLC) discarded messages sent by MS with non-local TLLI to the BSS. |
| Bssgp RAN Information Management (RIM) messages | Total number of BSSGP Radio Access Network (RAN) information management (RIM) messages associated with this instance of link manager. |
| LLC | The Logical Link Control (LLC) protocol provides a logical link between the MS and SGSN. The LLC provides services to maintain a ciphered data link. |
| LLC Statistics | The link manager parser statistics includes following LLC related parameters: <ul style="list-style-type: none"> • Count • Decode Failure • LLC Msg with non gmm payload • LLC Msg with unknown sapi payload |

| Field | Description |
|--|---|
| Count | Total number of LLC messages associated with this instance of link manager parser. |
| Decode Failure | Total number of LLC related messages that the link manager parser failed to decode. |
| LLC messages with non gmm payload | Total number of LLC messages with the payload not related to Gprs Mobility Management. |
| LLC messages with unknown sapi payload | A Network layer Service Access Pointer Identifier (NSAPI) is used to identify the PDP context between MS and SGSN. Total number of LLC messages with the payload related to unknown (NSAPI). |
| SGSN Empty-CR Statistics | SGSN empty Connection Request (CR) statistics includes following parameters: <ul style="list-style-type: none"> • Empty Cr sent to Imsimgr |
| Empty-CR sent to Imsimgr | Total number of empty connection requests sent to IMIS manager by this instance of link manager. |
| Msg from Peer | Messages from peer SCCP node include following parameters: <ul style="list-style-type: none"> • Release complete received • Released received • Error received • Inactivity received • DT1 received • DT1 decode attempt |
| Released Complete Received | A Release Complete message is sent by receiving SCCP to indicate that Release message is received and appropriate procedures are being performed. Total number of Release Complete messages received by the receiving SCCP. |
| Released Received | A Released message is sent, in the forward or backward direction, to indicate that the sending SCCP wants to release a signalling connection. Resources associated with this connection at the sending SCCP have been brought into the disconnect pending condition. Total number of release received messages associated with this instance of link manager parser. |
| Error Received | Total number SCCP error messages associated with this instance of link manager parser. |

| Field | Description |
|---------------------|---|
| Inactivity Received | Total number of inactivity messages associated with this instance of link manager parser. |
| DT1 Received | A Data Form 1 (DT1) message is sent by any of the two communicating SCCP nodes, to transparently pass the SCCP user data amongst them. Total number of DT1 messages received that are associated with this link manger parser. |
| DT1 Decode attempt | Total number of attempts performed by the link manager parser to decode the received DT1 messages. |
| Ranap Decode | The Radio Access Network Application Part (RANAP) is a radio network layer signaling protocol for Iu interface, residing in UTRAN and core network. RANAP decode statistics include following parameters: <ul style="list-style-type: none"> • Init –UE received • Other received |
| Init –UE Received | RANAP can be used to separate each UE on protocol level for mobile related signal management. These are total number of initialized UE received messages related to the link manger parser instance. |
| Other Received | Total number of other RANAP messages such as UTRAN radio access bearers or paging related messages that are associated with this instance of link manager parser. |
| Gmm Decode | Following GPERS Mobility Management (GMM) statistics can be used to decode the GMM associated with this instance of link manager: <ul style="list-style-type: none"> • Gmm received |
| Gmm Rcvd | GPERS Mobility Management (GMM) statistics includes following parameters: <ul style="list-style-type: none"> • Attach received • RAU received • Detach received • Service request received |
| Attach Rcvd | Total number of received MS attach requests that are associated with this instance of link manager. |
| RAU Rcvd | Total number of Routing Area Update (RAU) requests received that are associated with this instance of link manager. |

| Field | Description |
|---------------------------|--|
| Detach Rcvd | Total number of Routing Area Update (RAU) requests associated with the link manager parser instance. |
| Service Req Rcvd | Total number of point to point or point to multi-point service request messages associated with the link manager parser instance. |
| Decoded DT1 msg | Decoded DT1 message statistics included following parameters: <ul style="list-style-type: none"> • RAU (non-local old) RAI • RAU (local old) RAI • RAU (LOR) different instance • RAU (LOR) same instance • Service/detach request • Service/detach same instance |
| RAU (Non-Local Old RAI) | A Routing Area (RA) is a subset of location area. It is used by GPRS-attached MS for bursty data communication services. When an MS moves from one RA to another and identifies the difference in the RA code then it performs another update. Each RA is defined by a Routing Area Identifier (RAI). An RAI includes Location Area Identifier (LAI) and Routing Area Code (RAC). These are total number of RAU messages for non-local and old RAI, that are associated with link manager parser instance. |
| RAU (Local Old RAI) | Total number of RAU messages for local and old RAI that are associated with link manager parser instance. |
| RAU(LOR) diff Instance | Total number of RAU messages related to Loss of Radio coverage (LOR) that is associated with different link manager parser instance. |
| RAU (LOR) Same Instance | Total number of RAU messages related to Loss of Radio coverage (LOR) that is associated with same link manager parser instance. |
| Service/Detach Request | Total number of GRPS service request or service detach request messages associated with the link manager. |
| Serv/Detach Same Instance | Total number of GRPS service request or service detach request messages associated with the same instance of link manager. |
| Serv/Detach diff Instance | Total number of GRPS service request or service detach request messages associated with different instances of link manager. |
| DT1 to be Fwd on Host cc | Total number of DT1 messages that need to be forwarded depending upon their host SCCP Connection Confirm (CC) message. |

| Field | Description |
|--------------------------------|--|
| Msg to Donor session manager | Donor session manager message statistics includes following messages received by the donor: <ul style="list-style-type: none"> • Frizzed sent |
| Frizzed Sent | Total number of frizzed messages that were sent to donor session manager. |
| Msg to Host session manager | Host session manager message statistics include following messages: <ul style="list-style-type: none"> • CR sent |
| CR Sent | Total number of Connection Request (CR) messages sent to host session manager that are associates with this link manger instance. |
| Msg from Donor session manager | Donor session manager message statistics includes following messages transmitted by the donor session manager: <ul style="list-style-type: none"> • CC received • CREF received • Released received • Release complete received • Inactivity received • Error received • DT1 received • Others |
| CC Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Connection Confirm (CC) message. |
| CREF Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Connection Refused (CREF) message. |
| Released Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Released message. |
| Rel Complete Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Release Complete (RLC) message. |
| Inactivity Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Inactivity messages. |

| Field | Description |
|-----------------------------|--|
| Error Rcvd | Total number of messages sent from the donor session managers that indicate reception of SCCP Protocol Data Unit (PDU) error messages. |
| DT1 Rcvd | A Data Form 1 (DT1) message is sent by the communicating SCCP nodes to transparently pass the SCCP user data. Total number of messages sent from the donor session managers that indicate reception of SCCP DT1 message. |
| Others | Total number of messages sent from the donor session managers that indicate reception of any other category of message. |
| Msg from Host Smgr | Host session manager message statistics includes following messages transmitted by the host session manager: <ul style="list-style-type: none"> • CC received • CREF received • Released received • Release complete received • Inactivity received • Error received • DT1 received • Others |
| CC Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Connection Confirm (CC) message. |
| CREF Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Connection Refused (CREF) message. |
| Released Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Released message. |
| Release Complete (RCL) Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Release Complete (RLC) message. |
| Inactivity Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Inactivity messages. |
| Error Rcvd | Total number of messages sent from the host session managers that indicate reception of SCCP Protocol Data Unit (PDU) error messages. |

| Field | Description |
|----------------------------|--|
| DT1 Rcvd | A Data Form 1 (DT1) message is sent by the communicating SCCP nodes to transparently pass the SCCP user data. Total number of messages sent from the host session managers that indicate reception of SCCP DT1 message. |
| Others | Total number of messages sent from the host session managers that indicate reception of any other category of message. |
| Misc. Statistics | Miscellaneous statistics include following messages: <ul style="list-style-type: none"> • CR excess length (> 24) • Memory allocation failed Cb • Cb list interest failed • Duplicate connection • DLR modify buffer removal failed • DLR modify buffer addition failed |
| CR Excess Len (>24) | Total number of messages where connection request length is more than twenty four characters. |
| Memory allocation fail Cb | Total number of messages indicating memory allocation failure for call barring or blocking. |
| Cb List insert fail | Total number of messages indicating failure to insert the call barring or call blocking list while transferring data from the SCCP. |
| Duplicate connection | Total number of messages indicating duplicate connection. |
| DLR modify Buffer Rem Fail | Total number of messages indicating the failure to remove the Destination Local Reference (DLR) modify buffer while data is being transferred by the SSCP. |
| DLR modify Buff Add Fail | Total number of messages indicating the failure to add the DLR buffer while data is being transferred by the SCCP. |
| Link Manager UDatInd Fail | Total number of messages indicating failure of link manager Udata. |

| Field | Description |
|---|--|
| Link Manager Empty-cr Cb release reason | link manager empty- cr Cb release reason statistics includes following parameters: <ul style="list-style-type: none"> • Attach request • RAU(non-local old RAI) • RAU (LOR) same instance • Service detach same instance • Release complete from peer • Release complete local • Local purge • CREF from donor manager |
| Attach Request | Total number of attach request messages with empty Connection Requests (CR) and empty Call barring (Cb) release reason. |
| RAU (Non local Old RAI) | Total number of messages with Routing Area Updates (RAU) from non-local Routing Area Indicators (RAIs). |
| RAU (LOR)Same Instance | Total number of messages with Routing Area Updates (RAUs) due to Loss of Radio Coverage (LOR) from the same instance of the link manager. |
| Service/Detach Same Instance | Total number of GPRS service attach or GPRS service detach messages, from same instance of the link manager. |
| Release Complete (RCL) from Peer | Total number of release complete messages from peer link manager instance. |
| Release Complete (RCL) Local | Total number of release complete messages from local link manager instance. |
| Local Purge | Total number of local purge messages. |
| CREF from Donor session manager | Total number of Connection Refused (CREF) messages sent by the donor session manager. |
| CREF from Host session manager | Total number of Connection Refused (CREF) messages sent by the host session manager. |
| Guard timer Exp | Total number of messages with expired guard timer. |
| Recovery | Total number of recovery messages that are associated with this instance of link manager parser. |
| Others | Total number of messages of any other category, that are associated with this instance of link manger parser. |



CHAPTER 78

show llc

- [show llc statistics, on page 1433](#)

show llc statistics



Note

- This table is relevant to 8.0 releases only.
- All statistics in this table are available per GPRS service.

Table 362: show llc statistics Command Output Descriptions

| Field | Description |
|----------------------------|--|
| LLC SAP Statistics | |
| Data transfer | |
| Data requests Rx | Number of LLC data requests received from the MS. |
| Data confirms Tx | Number of LLC data requests confirmation sent to the MS. |
| Data indications Tx | Number of LLC data indications sent to the MS. |
| Data-Sent indications Tx | Number of LLC data sent indications sent to the MS. |
| Unit data requests Rx | Number of LLC unit data requests received from the MS. |
| Unit data requests Rx Drop | <p>Description: This proprietary counter indicates the total number of unit data requests received from SNDCP layer and dropped at the LLC layer.</p> <p>Triggers: Increments when LLC receives a downlink packet from SNDCP and the queue in LLC layer is full.</p> |
| Unit data indications Tx | Number of LLC unit data indications sent to the MS. |
| Errors reported | |

| Field | Description |
|------------------------|---|
| Discarded frames Rx | Number of LLC discarded frames received from the MS. |
| Discarded frames Tx | Number of LLC discarded frames sent to the MS. |
| Error frames Rx | Number of LLC error frames received from the MS. |
| Unrecognised frames Rx | Number of LLC unrecognized frames received from the MS. |
| XID collisions | Number of LLC exchange identifier (XID) request collisions. |
| OC Increments done | This counter indicates how many times the OC value is incremented by "512". Overflow Counter (OC) is incremented by "512" every time the received LFN (LLC Frame Number -> N(U)) wraps around from "512" to "0", and re-starts counting from "0". |
| Ciphering errors | Number of LLC ciphering errors. |
| FCS errors | Number of LLC frame check sequence errors. |
| LLC Frame statistics | |
| Octets Rx | Number of bytes of LLC frames received from an MS. |
| Octets Tx | Number of bytes sent from the LLC layer to an MS from the SGSN. |
| Unack frames Rx | Number of unacknowledged UI frames received at the LLC layer from an MS. |
| Unack frames Tx | Number of unacknowledged UI frames sent from the LLC to an MS. |
| UI Rx | Number of LLC frames with unnumbered information received from the MS. |
| UI Tx | Number of LLC frames with unnumbered information sent to the MS. |
| UI Ciphered frames Rx | Number of LLC frames with ciphered unnumbered information received from the MS. |
| UI Ciphered frames Tx | Number of LLC frames with ciphered unnumbered information sent to the MS. |
| XID Rx | Number of XID-reset messages received from the MS. |
| XID Tx | Number of XID-reset messages sent to the MS. |



CHAPTER 79

show lma-service

This chapter describes the outputs of the **show lma-service** command.

- [show lma-service statistics, on page 1435](#)

show lma-service statistics

Table 363: show lma-service statistics Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| MIP AAA Authentication | |
| Attempts | The total number of MIP AAA authentication attempts made by this system or the specified service. |
| Success | The total number of MIP AAA authentication attempts that were successful made by this system or the specified service. |
| Total Failures | The total number of MIP AAA authentication attempts that failed made by this system or the specified service. |
| Actual Auth Failures | The total number of actual MIP AAA authentication failures received by this system or the specified service. |
| Failures | The total number of failures received by this system or the specified service. |
| Misc Auth Failures | The total number of miscellaneous MIP AAA authentication failures received this system or the specified service. |
| Binding Updates Received | |
| Total Received | The total number of all binding updates received by this system or the specified service. |
| Total Accepted | The total number of all binding updates received and accepted by this system or the specified service. |

| Field | Description |
|--------------------------------------|---|
| Total Denied | The total number of all binding updates received and denied by this system or the specified service. |
| Total Discarded | The total number of all binding updates received and discarded by this |
| Initial Binding Update Requests | |
| Received | The total number of all initial binding updates received by this system or the specified service. |
| Accepted | The total number of initial binding updates received and accepted by this system or the specified service. |
| Denied | The total number of initial binding updates received and denied by this system or the specified service. |
| Refresh Binding Update Requests | |
| Received | The total number of all refresh binding updates received by this system or the specified service. |
| Accepted | The total number of refresh binding update requests received and accepted by this system or the specified service. |
| Denied | The total number of refresh binding update requests received and denied by this system or the specified service. |
| DeReg Requests | |
| Received | The total number of all deregistration request binding updates received by this system or the specified service. |
| Accepted | The total number of deregistration request binding updates received and accepted by this system or the specified service. |
| Denied | The total number of deregistration request binding updates received and denied by this system or the specified service. |
| Handoff Requests | |
| Received | The total number of all handoff request binding updates received by this system or the specified service. |
| Accepted | The total number of handoff request binding updates received and accepted by this system or the specified service. |
| Denied | The total number of handoff request binding updates received and denied by this system or the specified service. |
| Binding Acknowledgements Sent | |
| Total | The total number of all binding update acknowledgments sent by this system or the specified service. |

| Field | Description |
|------------------------------------|--|
| Accepted Reg | The total number of accepted registration binding update acknowledgments sent by this system or the specified service. |
| Accepted DeReg | The total number of accepted deregistration binding update acknowledgments sent by this system or the specified service. |
| Denied | The total number of denied binding update acknowledgments sent by this system or the specified service. |
| Send Error | The total number of send error binding update acknowledgments sent by this system or the specified service. |
| Accepted Init Reg | The total number of initial binding acknowledgments sent by LMA with Success code. |
| Binding Update Deny Reasons | |
| Insufficient Resources | The total number of binding update deny messages, due to insufficient resources, sent by this system or the specified service. |
| Mismatched ID | The total number of binding update deny messages, due to mismatched IDs, sent by this system or the specified service. |
| MN Auth Failure | The total number of binding update deny messages, due to a mobile node authentication failure condition, sent by this system or the specified service. |
| Admin Prohibited | The total number of binding update deny messages, due to requiring a message ID, sent by this system or the specified service. |
| Msg ID Required | The total number of binding update deny messages, due to requiring a message ID, sent by this system or the specified service. |
| DAD Failed | The total number of binding update deny messages, due to DAD failure, sent by this system or the specified service. |
| Not Home Subnet | The total number of binding update deny messages, due to an incorrect home subnet, sent by this system or the specified service. |
| Sequence Out Of Window | The total number of binding update deny messages, due to sequence out of window, sent by this system or the specified service. |
| Reg Type Change Disallowed | The total number of binding update deny messages, due to a disallowed registration type change, sent by this system or the specified service. |
| Unspecified Reason | The total number of binding update deny messages, due to an unspecified reason, sent by this system or the specified service. |

| Field | Description |
|-------------------------------|--|
| Service-Authorization Failed | The total number of binding update deny messages, due to a service authorization failure, sent by this system or the specified service. |
| Proxy Reg Not Enabled | The total number of binding update deny messages, due to a proxy registration not enabled error, sent by this system or the specified service. |
| Timestamp Mismatch | The total number of binding update deny messages, due to a timestamp mismatch error, sent by this system or the specified service. |
| Timestamp Lower Than Expected | The total number of binding update deny messages, due to a timestamp lower than expected reason, sent by this system or the specified service. |
| Missing MN-ID Option | The total number of binding update deny messages, due to a missing MN-ID option, sent by this system or the specified service. |
| Missing HNP Option | The total number of binding update deny messages, due to a missing HNP option, sent by this system or the specified service. |
| Missing Access Tech Option | The total number of binding update deny messages, due to a missing access technology option, sent by this system or the specified service. |
| Missing Handoff Ind Option | The total number of binding update deny messages, due to a missing handoff indicator option, sent by this system or the specified service. |
| Not Authorized For HNP | The total number of binding update deny messages, due to a not authorized for HNP reason, sent by this system or the specified service. |
| Not LMA For Mobile | The total number of binding update deny messages, due to a missing LMA for the MN reason, sent by this system or the specified service. |
| Not Authorized For Proxy Reg | The total number of binding update deny messages, due to a not authorized for proxy registration reason, sent by this system or the specified service. |
| BCE Prefix Do Not Match | The total number of binding update deny messages, due to a BCE prefix not matching, sent by this system or the specified service. |
| GRE Key Option Required | The total number of binding update deny messages, due to a GRE key option required reason, sent by this system or the specified service. |

| Field | Description |
|--|--|
| MCOA Unknown CoA: | The total number of binding update deny messages, due to a MCOA unknown CoA reason, sent by this system or the specified service. |
| Update Denied - Insufficient Resource Reasons | |
| No Session Manager | The total number of binding update deny messages, due to insufficient resources - no session manager, sent by this system or the specified service. |
| No Memory | The total number of binding update deny messages, due to insufficient resources - no memory, sent by this system or the specified service. |
| Session Manager Rejected | The total number of binding update deny messages, due to insufficient resources - session manager rejected, sent by this system or the specified service. |
| Input-Q Exceeded | The total number of binding update deny messages, due to insufficient resources - input queue exceeded, sent by this system or the specified service. |
| Simul Bindings Exceeded | The total number of binding update deny messages, due to insufficient resources - simultaneous bindings exceeded, sent by this system or the specified service. |
| Address Alloc Failed | The total number of binding update deny messages, due to insufficient resources - address allocation failed, sent by this system or the specified service. |
| Update Denied - Admin Prohibited Reasons | |
| MN-AAA Auth Option Missing | The total number of binding update deny messages, due to an administrator prohibited - MN-AAA auth option missing condition, sent by this system or the specified service. |
| H-bit Not Set | The total number of binding update deny messages, due to an administrator prohibited - H-bit not set condition, sent by this system or the specified service. |
| Invalid MN-AAA Option SPI | The total number of binding update deny messages, due to an administrator prohibited - invalid MN-AAA option SPI condition, sent by this system or the specified service. |
| Invalid MN-HA Option SPI | The total number of binding update deny messages, due to an administrator prohibited - invalid MN-HA option SPI condition, sent by this system or the specified service. |
| Congestion Control Denied | The total number of binding update deny messages, due to an administrator prohibited - congestion control denied condition, sent by this system or the specified service. |

| Field | Description |
|---|--|
| Policy Rejected | The total number of binding update deny messages, due to an administrator prohibited - policy rejected condition, sent by this system or the specified service. |
| HoA Not Authorized | The total number of binding update deny messages, due to an administrator prohibited - HoA not authorized condition, sent by this system or the specified service. |
| No Permission | The total number of binding update deny messages, due to an administrator prohibited - no permission condition, sent by this system or the specified service. |
| Bad Request | The total number of binding update deny messages, due to an administrator prohibited - bad request condition, sent by this system or the specified service. |
| Update Denied - Unspecified Reason | |
| Newer Session detected by AAA | The total number of binding update discarded messages, due to newer session detected by AAA, sent by this system or the specified service. |
| Newer Session detected by PCRF | The total number of binding update discarded messages, due to newer session detected by PCRF, sent by this system or the specified service. |
| Newer Session detected by PCS | The total number of binding update discarded messages, due to newer session detected by PCS, sent by this system or the specified service. |
| Binding Updates Discard Reasons | |
| Congestion Discarded | The total number of binding update discarded messages, due to congestion, sent by this system or the specified service. |
| Checksum Error | The total number of binding update discarded messages, due to checksum error(s), sent by this system or the specified service. |
| Initial Auth Pending | The total number of binding update discarded messages, due to an initial authentication pending condition, sent by this system or the specified service. |
| Session Not Found | The total number of binding update discarded messages, due to a session not found condition, sent by this system or the specified service. |
| HAMGR Not Ready | The total number of binding update discarded messages, due to an HA manager not found condition, sent by this system or the specified service. |
| Decode Failure | The total number of binding update discarded messages, due to a decode failure, sent by this system or the specified service. |

| Field | Description |
|--|---|
| Invalid Buffer Length | The total number of binding update discarded messages, due to an invalid buffer length, sent by this system or the specified service. |
| Revocation Pending | The total number of binding update discarded messages, due to pending revocations, sent by this system or the specified service. |
| Binding Revocation | |
| Sent | The total number of binding revocations sent by this system or the specified service. |
| Retries Sent | The total number of binding revocation retries sent by this system or the specified service. |
| Ack Rcvd | The total number of binding revocation acknowledgements received by this system or the specified service. |
| Not Acknowledged | The total number of binding revocations sent, but not acknowledged, by this system or the specified service. |
| Rcvd | The total number of binding revocations received by this system or the specified service. |
| Ack Sent | The total number of binding revocation acknowledgements sent by this system or the specified service. |
| Sent Revocation Trigger Reasons | |
| Unspecified | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Unspecified" revocation trigger reason. |
| Administrative Reason | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Administrative Reason" revocation trigger reason. |
| Inter-MAG Handoff-Same ATT | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG Handoff-Same ATT" revocation trigger reason. |
| Inter-MAG - Unknown Handoff | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG - Unknown Handoff" revocation trigger reason. |
| Inter-MAG Handoff-Diff ATT | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG Handoff-Diff ATT" revocation trigger reason. |
| Per-Peer Policy | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "Per-Peer Policy" revocation trigger reason. |

| Field | Description |
|---------------------------------------|---|
| Revoking Node Local Policy | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "Revoking Node Local Policy" revocation trigger reason. |
| User Initiated Session Term | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "User Initiated Session Term" revocation trigger reason. |
| Access Network Session Term | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Access Network Session Term" revocation trigger reason. |
| Out-of Sync BCE State | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Out-of Sync BCE State" revocation trigger reason. |
| Unknown | The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Unknown" revocation trigger reason. |
| Received Revocation ACK Status | |
| Success | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Success" status. |
| Partial-Success | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Partial-Success" status. |
| Binding-Does-Not-Exist | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Binding-Does-Not-Exist" status. |
| No IPv4-HoA-Bind | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "No IPv4-HoA-Bind" status. |
| Global-Revoc-Not-Authorized | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Global-Revoc-Not-Authorized" status. |
| Revoc-MN-ID-Required | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-MN-ID-Required" status. |
| Revoc-Failed-MN-Attached | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-Failed-MN-Attached" status. |
| Trigger-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Trigger-Not-Supported" status. |

| Field | Description |
|---|---|
| Proxy-Bind-Rev-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Proxy-Bind-Rev-Not-Supported" status. |
| Revoc-Func-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-Func-Not-Supported" status. |
| Unknown | The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with an "Unknown" status. |
| Binding Revocation ACK Discarded | |
| Total | The total number of binding revocation acknowledgements received and discarded by this system or the specified service. |
| Session Not Found | The total number of binding revocation acknowledgements received and discarded, due to a session not found condition, by this system or the specified service. |
| Badly Formed Request | The total number of binding revocation acknowledgements received and discarded, due to a badly formed request condition, by this system or the specified service. |
| Decode Error | The total number of binding revocation acknowledgements received and discarded, due to a decode error condition, by this system or the specified service. |
| Checksum Error | The total number of binding revocation acknowledgements received and discarded, due to a checksum error condition, by this system or the specified service. |
| Invalid Message Type | The total number of binding revocation acknowledgements received and discarded, due to an invalid message type condition, by this system or the specified service. |
| HAMGR Not Ready | The total number of binding revocation acknowledgements received and discarded, due to a HAMGR not ready condition, by this system or the specified service. |
| Matching Request Not Found | The total number of binding revocation acknowledgements received and discarded, due to a matching request not found condition, by this system or the specified service. |
| Invalid Buffer Length | The total number of binding revocation acknowledgements received and discarded, due to an invalid buffer length condition, by this system or the specified service. |
| Tunnel Data Received | |
| Total Packets | The total number of tunnel packets received by this system or the specified service. |

| Field | Description |
|-----------------|---|
| 6in6 | The total number of IPv6-in-IPv6 tunnel packets received by this system or the specified service. |
| 4in6 | The total number of IPv4-in-IPv6 tunnel packets received by this system or the specified service. |
| IPv6 GRE (IPv4) | The total number of IPv4-in-IPv6 GRE tunnel packets received by this system or the specified service. |
| IPv6 GRE (IPv6) | The total number of IPv6-in-IPv6 GRE tunnel packets received by this system or the specified service. |
| 4in4 | The total number of IPv4-in-IPv4 tunnel packets received by this system or the specified service. |
| 6in4 | The total number of IPv6-in-IPv4 tunnel packets received by this system or the specified service. |
| IPv4 UDP (IPv4) | The total number of IPv4-in-IPv4 UDP tunnel packets received by this system or the specified service. |
| IPv4 UDP (IPv6) | The total number of IPv6-in-IPv4 UDP tunnel packets received by this system or the specified service. |
| Total Bytes | The total number of tunnel bytes received by this system or the specified service. |
| 6in6 | The total number of IPv6-in-IPv6 tunnel bytes received by this system or the specified service. |
| 4in6 | The total number of IPv4-in-IPv6 tunnel bytes received by this system or the specified service. |
| IPv6 GRE (IPv4) | The total number of IPv4-in-IPv6 GRE tunnel bytes received by this system or the specified service. |
| IPv6 GRE (IPv6) | The total number of IPv6-in-IPv6 GRE tunnel bytes received by this system or the specified service. |
| 4in4 | The total number of IPv4-in-IPv4 tunnel bytes received by this system or the specified service. |
| 6in4 | The total number of IPv6-in-IPv4 tunnel bytes received by this system or the specified service. |
| IPv4 UDP (IPv4) | The total number of IPv4-in-IPv4 UDP tunnel bytes received by this system or the specified service. |
| IPv4 UDP (IPv6) | The total number of IPv6-in-IPv4 UDP tunnel bytes received by this system or the specified service. |
| Errors | |

| Field | Description |
|-------------------------|---|
| Protocol Type Error | The total number of protocol type data errors received by this system or the specified service. |
| Invalid Pkt Length | The total number of invalid packet length data errors received by this system or the specified service. |
| No Session Found | The total number of no session found data errors received by this system or the specified service. |
| Tunnel Data Sent | |
| Total Packets | The total number of tunnel packets sent by this system or the specified service. |
| 6in6 | The total number of IPv6-in-IPv6 tunnel packets sent by this system or the specified service. |
| 4in6 | The total number of IPv4-in-IPv6 tunnel packets sent by this system or the specified service. |
| IPv6 GRE (IPv4) | The total number of IPv4-in-IPv6 GRE tunnel packets sent by this system or the specified service. |
| IPv6 GRE (IPv6) | The total number of IPv6-in-IPv6 GRE tunnel packets sent by this system or the specified service. |
| 4in4 | The total number of IPv4-in-IPv4 tunnel packets sent by this system or the specified service. |
| 6in4 | The total number of IPv6-in-IPv4 tunnel packets sent by this system or the specified service. |
| IPv4 UDP (IPv4) | The total number of IPv4-in-IPv4 UDP tunnel packets sent by this system or the specified service. |
| IPv4 UDP (IPv6) | The total number of IPv6-in-IPv4 UDP tunnel packets sent by this system or the specified service. |
| Total Bytes | The total number of tunnel bytes sent by this system or the specified service. |
| 6in6 | The total number of IPv6-in-IPv6 tunnel bytes sent by this system or the specified service. |
| 4in6 | The total number of IPv4-in-IPv6 tunnel bytes sent by this system or the specified service. |
| IPv6 GRE (IPv4) | The total number of IPv4-in-IPv6 GRE tunnel bytes sent by this system or the specified service. |
| IPv6 GRE (IPv6) | The total number of IPv6-in-IPv6 GRE tunnel bytes sent by this system or the specified service. |

| Field | Description |
|------------------------------|---|
| 4in4 | The total number of IPv4-in-IPv4 tunnel bytes sent by this system or the specified service. |
| 6in4 | The total number of IPv6-in-IPv4 tunnel bytes sent by this system or the specified service. |
| IPv4 UDP (IPv4) | The total number of IPv4-in-IPv4 UDP tunnel bytes sent by this system or the specified service. |
| IPv4 UDP (IPv6) | The total number of IPv6-in-IPv4 UDP tunnel bytes sent by this system or the specified service. |
| Tunnel ICMPV6 Packets | |
| Packet Too Big Rcvd | The total number of tunnel ICMP packets - too big received by this system or the specified service. |
| Packet Too Big Dropped | The total number of tunnel ICMP packets - too big dropped by this system or the specified service. |
| Packet Too Big Relayed | The total number of tunnel ICMP packets - too big relayed by this system or the specified service. |
| Total Disconnects | |
| Lifetime expiry | The total number of disconnects due to lifetime expiry initiated by this system or the specified service. |
| Deregistrations | The total number of disconnects due to deregistrations initiated by this system or the specified service. |
| Admin Drops | The total number of disconnects due to admin drops initiated by this system or the specified service. |
| Other Reasons | The total number of disconnects due to "other reasons" initiated by this system or the specified service. |



CHAPTER 80

show local-policy

This chapter describes the outputs of the **show local-policy** command.

- [show local-policy statistics service, on page 1447](#)

show local-policy statistics service

Table 364: show local-policy statistics service Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Event Statistics | |
| New Session | The total number of times a Local Policy new-call event rule is triggered. |
| Location Change | The total number of times a Local Policy location-change event rule is triggered. |
| Request Qos | The total number of times a Local Policy request-qos event rule is triggered. |
| Out of Credit | The total number of times a Local Policy out-of-credit event rule is triggered. |
| Reallocation of Credit | The total number of times a Local Policy realloc-of-credit event rule is triggered. |
| Local Fallback | The total number of times a Local Policy fallback from PCRF event rule is triggered. |
| Timer Expiry | The total number of times a Local Policy timer-expiry event rule is triggered. |
| Default Qos Change | The total number of times a Local Policy default-qos-change event rule is triggered. |
| Service Flow | The total number of times a Local Policy service-flow event rule is triggered. |
| Rule Report Status | The total number of times a Local Policy Rule Report Status is triggered to PCRF. |

| Field | Description |
|--------------------------------|---|
| APN-AMBR Mod Failure | The total number of times a Local Policy APN-AMBR mode failure rule is triggered. |
| Def EPS bearer Qos Mod Failure | The total number of times a Def EPS bearer Qos Mode Failure rule is triggered. |
| ECGI Change | The total number of times the ECGI-CHANGE event trigger has been received by Local-Policy. This field is added to support Location-based Local-Policy Rule Enforcement. |
| 3G-ULI Change | The total number of 3G-ULI-CHANGE event triggers that has been received by Local-Policy. This field is added to support Location-based QoS Override feature. |
| TAI Change | The total number of times the TAI-CHANGE event trigger has been received by Local-Policy. This field is added to support Location-based QoS Override feature. |
| Action Statistics | |
| Create Bearer | The total number of times a Local Policy create-bearer action is triggered. |
| Create Bearer failure | The total number of times a Local Policy create-bearer action fails. |
| Create Bearer Success | The total number of times a Local Policy create-bearer action succeeds. |
| Delete Bearer | The total number of times a Local Policy delete-bearer action is triggered. |
| Delete Bearer failure | The total number of times a Local Policy delete-bearer action fails. |
| Delete Bearer Success | The total number of times a Local Policy delete-bearer action succeeds. |
| Allow Session | The total number of times a Local Policy allow-session action is triggered. |
| Allow Session failure | The total number of times a Local Policy allow-session action fails. |
| Allow Session Success | The total number of times a Local Policy allow-session action succeeds. |
| Terminate Session | The total number of times a Local Policy terminate-session action is triggered. |
| Terminate Session failure | The total number of times a Local Policy terminate-session action fails. |
| Terminate Session Success | The total number of times a Local Policy terminate-session action succeeds. |
| Activate Rule | The total number of times a Local Policy activate-rule action is triggered. |

| Field | Description |
|--------------------------|--|
| Activate Rule failure | The total number of times a Local Policy activate-rule action fails. |
| Activate Rule Success | The total number of times a Local Policy activate-rule action succeeds. |
| Activate LP Rule | The total number of times the lp-activate-rule action is triggered by local-policy module. |
| Activate LP Rule failure | The total number of times the lp-activate-rule action fails. |
| Activate LP Rule Success | The total number of times the lp-activate-rule action succeeds. |
| Deactivate Rule | The total number of times a Local Policy deactivate-rule action is triggered. |
| Deactivate Rule failure | The total number of times a Local Policy deactivate-rule action fails. |
| Deactivate Rule Success | The total number of times a Local Policy deactivate-rule action succeeds. |
| Activate AMBR | The total number of times a Local Policy activate-ambr action is triggered. |
| Activate AMBR failure | The total number of times a Local Policy activate-ambr action fails. |
| Activate AMBR Success | The total number of times a Local Policy activate-ambr action succeeds. |
| Deactivate AMBR | The total number of times a Local Policy deactivate-ambr action is triggered. |
| Deactivate AMBR failure | The total number of times a Local Policy deactivate-ambr action fails. |
| Deactivate AMBR Success | The total number of times a Local Policy deactivate-ambr action succeeds. |
| Accept Req QoS | The total number of times a Local Policy allow-requested-qos action is triggered. |
| Accept Req QoS failure | The total number of times a Local Policy allow-requested-qos action fails. |
| Accept Req QoS Success | The total number of times a Local Policy allow-requested-qos action succeeds. |
| Reject Req QoS | The total number of times a Local Policy reject-requested-qos action is triggered. |
| Reject Req QoS failure | The total number of times a Local Policy reject-requested-qos action fails. |
| Reject Req QoS Success | The total number of times a Local Policy reject-requested-qos action succeeds. |
| Activate Rulebase | The total number of times a Local Policy activate-rulebase action is triggered. |

| Field | Description |
|--------------------------------|---|
| Activate Rulebase failure | The total number of times a Local Policy activate-rulebase action fails. |
| Activate Rulebase Success | The total number of times a Local Policy activate-rulebase action succeeds. |
| Deactivate Rulebase | The total number of times a Local Policy deactivate-rulebase action is triggered. |
| Deactivate Rulebase failure | The total number of times a Local Policy deactivate-rulebase action fails. |
| Deactivate Rulebase Success | The total number of times a Local Policy deactivate-rulebase action succeeds. |
| Activate Policy Grp | The total number of times a Local Policy activate-policy-group action is triggered. |
| Activate PolicyGrp failure | The total number of times a Local Policy activate-policy-group action fails. |
| Activate PolicyGrp Grp Success | The total number of times a Local Policy activate-policy-group action succeeds. |
| Deactivate PolicyGrp | The total number of times a Local Policy deactivate-policy-group action is triggered. |
| Deactivate PolicyGrp failure | The total number of times a Local Policy deactivate-policy-group action fails. |
| Deactivate PolicyGrp Success | The total number of times a Local Policy deactivate-policy-group action succeeds. |
| Set Default QoS | The total number of times a Local Policy default-qos action is triggered. |
| Set Default QoS failure | The total number of times a Local Policy default-qos action fails. |
| Set Default QoS Success | The total number of times a Local Policy default-qos action succeeds. |
| Start Timer | The total number of times a Local Policy start-timer action is triggered. |
| Start Timer failure | The total number of times a Local Policy start-timer action fails. |
| Start Timer Success | The total number of times a Local Policy start-timer action succeeds. |
| Stop Timer | The total number of times a Local Policy stop-timer action is triggered. |
| Stop Timer failure | The total number of times a Local Policy stop-timer action fails. |
| Stop Timer Success | The total number of times a Local Policy stop-timer action succeeds. |
| Activate Detect Flow | Indicates the total number of times a Local Policy activate-flow-detection action is triggered. |

| Field | Description |
|-------------------------------------|--|
| Activate Detect Flow Failure | Indicates the total number of times a Local Policy activate-flow-detection action fails. |
| Activate Detect Flow Success | Indicates the total number of times a Local Policy activate-flow-detection action succeeds. |
| Deactivate Detect Flow | Indicates the total number of times a Local Policy deactivate-flow-detection action is triggered. |
| Deactivate Detect Flow Failure | Indicates the total number of times a Local Policy deactivate-flow-detection action fails. |
| Deactivate Detect Flow Success | Indicates the total number of times a Local Policy deactivate-flow-detection action succeeds. |
| Reconnect to Server | Indicates the total number of times a Local Policy reconnect-to-server action is triggered. |
| Reconnect to Server Failure | Indicates the total number of times a Local Policy reconnect-to-server action fails. |
| Reconnect to Server Success | Indicates the total number of times a Local Policy reconnect-to-server action succeeds. |
| Retry-Count Success | Indicates the total number of times the Local Policy retry action succeeds. |
| Enable Event Trigger | Indicates the total number of times the action is hit. This field is introduced to support the co-existence of local policy and PCRF. |
| Enable Event Trigger Failure | Indicates the total number of times enabling of Local Policy event triggers failed. This field is introduced to support the co-existence of local policy and PCRF. |
| Enable Event Trigger Success | Indicates the total number of times the Local Policy event triggers are enabled. This field is introduced to support the co-existence of local policy and PCRF. |
| Variable Matching Statistics | |
| 3G-ULI | Total number of times the 3G-ULI value is matched and the specific action is applied based on the event. |
| IMSI | The total number of times the IMSI associated with the subscriber matched the Local Policy 'imsi' condition constraint. |
| MSISDN | The total number of times the MSISDN associated with the subscriber matched the Local Policy 'msisdn' condition constraint. |
| MEID | The total number of times the MEID associated with the subscriber matched the Local Policy 'meid' condition constraint. |
| IMEISV | The total number of times the IMEISV of the user equipment matched the Local Policy 'imeisv' condition constraint. |
| LOCAL POLICY MODE | Indicates the total number of times the Local Policy rule is hit. This field is introduced to support the co-existence of local policy and PCRF. |

| Field | Description |
|--------------------------|---|
| Access Tech | The total number of times the Radio access technology associated with the subscriber matched the Local Policy 'radio-access-technology' condition constraint. |
| Serving Node Addr | The total number of times the IP address associated with the current node matched the Local Policy 'serving-node-address' condition constraint. |
| Serving PLMN | The total number of times the PLMN associated with the current node serving the subscriber matched the Local Policy 'serving-plmn' condition constraint. |
| Access Point Name | The total number of times the APN associated with a session matched the Local Policy 'apn' condition constraint. |
| NAI | The total number of times the NAI associated with a session matched the Local Policy 'nai' condition constraint. |
| QoS Class Identifier | The total number of times the QoS Class Identifier associated with an event matched the Local Policy 'qci' condition constraint. |
| Alloc Retention Priority | The total number of times the Allocation Retention Priority associated with a session matched the Local Policy 'arp' condition constraint. |
| Day of Week | The total number of times the day of the week value matched the Local Policy 'day-of-week' condition constraint. |
| Day of month | The total number of times the day of the month value matched the Local Policy 'day-of-month' condition constraint. |
| Month of year | The total number of times the month of the year value matched the Local Policy 'month-of-year' condition constraint. |
| Date | The total number of times the date value matched the Local Policy 'date' condition constraint. |
| Time of Day | The total number of times the Time of Day value matched the Local Policy 'date' condition constraint. |
| Bearer Count | The total number of times the bearer count matches the specified constraint. |
| BSID | The total number of times the base station identifier matches the specified constraint. |
| RAI | The total number of times the Routing Area Identification matches the specified constraint. |
| Cause-Code | The total number of times the Failure Cause Code matches the specified constraint. |
| PDN Type | The total number of times the rules in actiondef matches with the UE PDN type/IP address allocated to the subscriber. |

| Field | Description |
|-------------------------------|---|
| Local Policy Mode | Indicates the total number of times the Local Policy rule is hit. This field is introduced to support the co-existence of local policy and PCRF. |
| Final Unit Action ECGI | Indicates the total number of times the Final Unit Action (FUA) matches the specified constraint. This field is introduced to support FUA in local policy. The total number of times the E-UTRAN Cell Global Identification matches the specified constraint. This field is added to support Location-based Local-Policy Rule Enforcement. |
| TAI | Total number of times the TAI value is matched and the specific action is applied based on the event. |



CHAPTER 81

show local-user

This chapter describes the outputs of the **show local-user** command.



Important

In a release 20.0 or higher Trusted build, this command is not available.

- [show local-user username name verbose, on page 1455](#)
- [show local-user statistics verbose, on page 1456](#)
- [show local-user verbose, on page 1457](#)

show local-user username name verbose

Table 365: show local-user username name verbose Command Output Descriptions

| Field | Description |
|-------------------|--|
| Username | The name of the local-user. |
| Auth Level | The authentication level for the local-user as one of the following: <ul style="list-style-type: none">• secadmin• admin• operator• inspector |
| Last Login | The time and date that the user last logged in. |
| Login Failures: | The number of login failures that occurred for the user. |
| Password Expired: | Indicates whether or not the password has expired. |
| Locked: | Indicates whether or not the account is locked. |
| Suspended | Indicates whether or not the account is suspended. |

| Field | Description |
|-----------------------|--|
| Lockout on Pw Aging | Indicates whether or not the account can be locked out due to the age of the password. |
| Lockout on Login Fail | Indicates whether or not the account can be locked out due to login failures. |

show local-user statistics verbose

Table 366: show local-user statistics verbose Command Output Descriptions

| Field | Description |
|---------------------------|--|
| Number of login attempts | The number of login attempts for all local-user accounts. |
| Number of login success | The number of successful logins for all local-user accounts. |
| Number of login failures | The number of failed logins for all local-user accounts. |
| Bad username | The number of logins that failed due to invalid usernames. |
| Bad password | The number of logins that failed due to incorrect passwords. |
| Locked user | The number of logins that failed due to the account being locked. |
| Suspended user | The number of logins that failed due to the account being suspended. |
| Internal error | The number of logins that failed due to system internal errors. |
| Number of user lockouts | The number of local-user accounts currently in the locked-out state. |
| Internal errors | The number of internal errors that occurred. |
| Unable to accept request | The number of internal errors that occurred because the system could not accept a login request. |
| Unable to receive request | The number of internal errors that occurred because the system could not receive a login request. |
| Unable to sent response | The number of internal errors that occurred because the system could not send a response to a login request. |
| Last statistics reset | The last time and date that local-user statistics maintained by the system were cleared. |

show local-user verbose

Table 367: show local-user verbose Command Output Descriptions

| Field | Description |
|------------------------|---|
| Username | The name of the local-user. |
| Auth Level | The authentication level for the local-user as one of the following: <ul style="list-style-type: none"> • secadmin • admin • operator • inspector |
| Last Login | The time and date that the user last logged in. |
| Login Failures: | The number of login failures that occurred for the user. |
| Password Expired: | Indicates whether or not the password has expired. |
| Hash strength: | Indicates the hash strength. |
| Locked: | Indicates whether or not the account is locked. |
| Suspended: | Indicates whether or not the account is suspended. |
| Lockout on Pw Aging: | Indicates whether or not the account can be locked out due to the age of the password. |
| Lockout on Login Fail: | Indicates whether or not the account can be locked out due to login failures. |
| Console Allowed: | Indicates the total number of consoles allowed. |
| VTY Allowed: | Displays a reference for the virtual console device for the CLI instance. |
| Max Sessions: | Indicates the maximum number of local-user subscriber sessions allowed. |



CHAPTER 82

show location-service

This chapter describes the output of the **show location-service** command.

- [show location-service service all](#), on page 1459
- [show location-service statistics all](#), on page 1460

show location-service service all

Displays configuration information for all Location services (LCS) configured on the system.

Table 368: show location-service service all Command Output Descriptions

| Field | Description |
|--------------------------|---|
| Service name | The name of the Location service configured on the system. |
| Context | The name of the context in which this Location service is configured on the system. |
| Status | The state of the Location service, either STARTED or NOT STARTED. The status will display STARTED if a valid diameter endpoint is associated with this locations service. |
| Diameter endpoint | The Diameter endpoint configured for this Location service. |
| Diameter dictionary | The Diameter dictionary configured for this Location service. |
| Map Service | The MAP service configured for this Location service. |
| SLS service | The name of the SLs service associated with this Location service. |
| LCSN timer | SGSN only: Displays the configuration of the Location service timeout lcsn command. |
| UE AVAILABLE GUARD timer | SGSN only: Displays the configuration of the Location service timeout ue-available-guard-timer command. |
| AREA EVENT INVOKE timer | SGSN only: Displays the configuration of the Location service timeout area-event-invoke-timer command. |

| Field | Description |
|---------------------------------|---|
| PERIODIC EVENT INVOKE timer | SGSN only: Displays the configuration of the Location service timeout periodic-event-invoke-timer command. |
| Destination Host | Displays the configuration of the Location service destination-host command, showing either the configured destination host or NA if not configured. If this command is not configured, the peer host name configured in the diameter endpoint is encoded as destination-host AVP. |
| SLR trigger for Emergency calls | Displays the configuration of the Location Service slr emergency dedicated-bearer-only command. This field displays Dedicated Bearer Only when configuration is enabled and Attach or PDN when configuration is disabled. |

show location-service statistics all

Displays Location services (LCS) statistics for all Location services configured on the system.

Table 369: show location-service statistics all Command Output Descriptions

| Field | Description |
|---------------------------|---|
| Message Statistics | |
| PSL Request | The total number of Provide Subscriber Location Request messages received. |
| PSL Answer | The total number of Provide Subscriber Location Answer messages sent. |
| PSL Request Dropped | The total number of Provide Subscriber Location Request messages dropped. |
| PSL Answer Dropped | The total number of Provide Subscriber Location Answer messages dropped. |
| LR Request | The total number of Network Induced Location Request (NI-LR) request messages initiated by the MME. |
| LR Request Dropped | The total number of Location Request messages that were dropped (could not be sent) as a result of the peer being down. |
| LR Answer | The total number of Location Request acknowledge messages received. |
| LR Answer Dropped | The total number of Location Request acknowledge messages dropped. This can occur when the user name in the acknowledge message does not match that sent in the request. Important In Release 16.0 and later, this counter is deprecated. |

| Field | Description |
|---|---|
| LR Answer Timeout | The total number of Location Request acknowledge messages expected but not received before the timer expired. |
| Message Error Statistics | |
| User Unknown | The total number of times the PLR was received for an unknown user (Error code: 5001). |
| Unauthorized Requestion Network | The total number of times the requesting GMLC's network was not authorized to request UE location information (Error code: 5490). |
| Unreachable User | The total number of times a PLR was received for a user which could not be reached (Error code: 4221) |
| Suspended User | The total number of times the PLR was received for a user who is suspended in the MME (Error code: 4222). |
| Detached User | The total number of times where the PLR was received for a detached user (Error code: 4223). |
| Positioning Denied | The total number of times the positioning procedure was denied (Error code: 4224). |
| Positioning Failed | The total number of times the positioning procedure failed (Error code: 4225). |
| Unreachable LCS Client | The total number of times the GLMC indicated that the LCS Client was not known or could not be reached (Error code: 4226). |
| Other Errors | The total number of PLA messages received with other error result codes. |
| Location Report Event Statistics | |
| Events Sent: | |
| Call Origination | Total number of Call-Origination events sent when SLR message is triggered towards GMLC. |
| Call Release | Total number of Call-Release events sent when SLR message is triggered towards GMLC. |
| Call Handover | Total number of Call-Handover events sent when SLR message is triggered towards GMLC. |
| Events Dropped: | |
| Call Origination | Total number of Call-Origination events dropped when SLR message is triggered towards GMLC. |
| Call Release | Total number of Call-Release events dropped when SLR message is triggered towards GMLC. |
| Call Handover | Total number of Call-Handover events dropped when SLR message is triggered towards GMLC. |



CHAPTER 83

show lte-policy

This chapter describes the output of the **show lte-policy** command.

- [show lte-policy congestion-action-profile name](#), on page 1463
- [show lte-policy cause-code-group name](#), on page 1465
- [show lte-policy foreign-plmn-guti-mgmt-db name](#), on page 1465
- [show lte-policy ho-restrict-list name](#), on page 1465
- [show lte-policy lte-emergency-profile name](#), on page 1466
- [show lte-policy tai-mgmt-db name](#), on page 1466
- [show lte-policy paging-map name](#), on page 1467
- [show lte-policy paging-profile name](#), on page 1467
- [show lte-policy tai-mgmt-db name](#), on page 1468

show lte-policy congestion-action-profile name



Important

In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 370: show lte-policy congestion-action-profile name Command Output Descriptions

| Field | Description |
|-------------------|--|
| handovers | Indicates the action the MME is configured to take for handovers when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| combined-attaches | Indicates the action the MME is configured to take for combined Attach requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| ps-attaches | Indicates the action the MME is configured to take for packet switched Attach requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |

| Field | Description |
|--------------------------|--|
| addn-pdn-connects | Indicates the action the MME is configured to take for additional PDN context connections when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| addn-brr-requests | Indicates the action the MME is configured to take for additional bearer requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| brr-ctxt-mod-requests | Indicates the action the MME is configured to take for Bearer Resource Context Modification Requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| service-request | Indicates the action the MME is configured to take for service requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| tau-request | Indicates the action the MME is configured to take for TAU requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| s1-setups | Indicates the action the MME is configured to take for S1 setup attempts when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| init-ues | Indicates the action the HeNBGW is configured to take for Initial UE messages received when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| paging | Indicates the action the HeNBGW is configured to take for Paging requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop. |
| exclude-emergency-events | Indicates whether the MME is configured to exclude emergency calls when a congestion control threshold is reached. This setting is disabled when 'no exclude-emergency-events' is displayed. |
| exclude-voice-events | Indicates whether the MME is configured to exclude voice calls when a congestion control threshold is reached. This setting is disabled when 'no exclude-voice-events' is displayed. |
| report-overload | Indicates whether the MME is configured to report overload conditions to eNodeBs to alleviate congestion scenarios. |

show lte-policy cause-code-group name

Table 371: show lte-policy cause-code-group name Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Cause Code Group <i>name</i> | |
| S1AP Protocol | |
| class | Lists the configuration of each cause code entry, organized by class (miscellaneous, nas, protocol, radio, transport), for this Cause Code Group. |

show lte-policy foreign-plmn-guti-mgmt-db name

Table 372: show lte-policy foreign-plmn-guti-mgmt-db name Command Output Descriptions

| Field | Description |
|---|---|
| Foreign PLMN GUTI Management DB <i>name</i> | |
| PLMN | Lists the management database PLMN entries and the configuration of each entry. |

show lte-policy ho-restrict-list name

Table 373: show lte-policy ho-restrict-list name Command Output Descriptions

| Field | Description |
|--------------------------|---|
| forbidden tracking areas | Lists the PLMN IDs which are part of the handover restriction list. |
| forbidden location areas | Lists the PLMN IDs which are part of the handover restriction list. |

show lte-policy lte-emergency-profile name

Table 374: show lte-policy lte-emergency-profile name Command Output Descriptions

| Field | Description |
|---------------------|--|
| ue-validation-level | Indicates the type of UE that can use the emergency bearer service through this profile. |
| apn | Indicates the name and PDN type of the access point name (APN) used for emergency PDN connections. If enabled, the configured restoration priority of 1 through 16 is displayed (1 is highest priority, 16 is lowest). |
| qos | Indicates the quality of service (QoS) settings for this emergency bearer service. |
| ambr | Indicates the maximum aggregated uplink and downlink bitrate values for this profile. |
| FQDN PGW | Indicates the Fully Qualified Domain Name of the P-GW to be used for emergency bearer services through this profile. |
| STATIC PGW | Indicates the static IP address, protocol, and weight of the P-GW to be used for emergency bearer services through this profile. |
| LCS QOS | Indicates the configuration of the lcs-qos command for this LTE emergency profile. This displays the location service QoS settings to be used for this emergency profile. Horizontal Accuracy: The horizontal positioning accuracy value. Vertical Accuracy: The vertical positioning accuracy value. |
| UE Usage Type | Configures UE usage type for disconnecting PDN for up service area |
| Co-located Node | Configures the collocated node name to select the collocated SPGW node IP addresses. |

show lte-policy tai-mgmt-db name

Table 375: show lte-policy tai-mgmt-db name Command Output Descriptions

| Field | Description |
|-------------|--|
| attach-only | Specifies the SGW preference for SGW-relocation. |

show lte-policy paging-map name

Table 376: show lte-policy paging-map name Command Output Descriptions

| Field | Description |
|--|--|
| Paging Map <i>n</i> | |
| Precedence | Indicates the order in which the MME checks the entries for this paging-map. |
| Traffic Type | Indicates the traffic type such as CS, PS, SIGNALING and sub-type that is specified for this paging-map. |
| Paging profile | Indicates the paging-profile to be used for this traffic type. |
| Precedence | Displays the configured precedence value. |
| Packet-Switched(PS) | Displays the paging is for Packet-Switched traffic. |
| APN | Displays the configured APN profile name. |
| ARP | Displays the configured ARP value. |
| Paging is performed as per paging-profile <name> | Displays the paging profile name. |

show lte-policy paging-profile name

Table 377: show lte-policy paging-profile name Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| Paging Profile <i>n</i> | |
| Paging Stage <i>n</i>: | Lists all Paging Stages configured for this Paging Profile. |
| Paging Action | Indicates how the paging request should be formed. Possible options are: <ul style="list-style-type: none"> • all-enb-all-tai • all-enb-last-tai • last-n-enb-last-tai |
| Match Criteria | Indicates the criteria for selecting a given paging stage. Possible options are: <ul style="list-style-type: none"> • ue-contact-time • all |
| T3413-Timeout | Indicates the time interval in seconds between paging requests. |

| Field | Description |
|--------------------|--|
| Max Paging Retries | Indicates the number of paging requests to be sent out during this paging stage. |

show lte-policy tai-mgmt-db name

Table 378: show lte-policy tai-mgmt-db name Command Output Descriptions

| Field | Description |
|----------------------------|---|
| TAI Management DB <i>n</i> | |
| Time Zone | Indicates the time zone settings to be used for the UE timezone in S11 and NAS messages. |
| Short Network Name | Indicates the short network name to be used in the Short network name IE in the EMM Information message sent by the MME. |
| Long Network Name | Indicates the full (long) network name to be used in the Long network name IE in the EMM Information message sent by the MME. |
| TAI Management Object | The name of the TAI management object and all configured options for the object. For each TAI Management Object, the following information is displayed, if configured: <ul style="list-style-type: none"> • Time Zone • Zone Code • IMS Voice over PS support • LAI (Location Area Identifier) • TAI (Tracking Area Identifier) • RAI (Routing Area Identifier) • SGW IP address, protocol, and weight priority information • Full and/or Short Network Name |
| Access-Type NB-IoT | Displays the configured access type. The show output displays whether all the TACs configured belong to either WB-EUTRAN or NB-IoT RAT. It is also possible that some of the configured TACs belong to WB-EUTRAN and the rest belong to NB-IoT RAT. |
| UE Usage Type | Configures UE usage type for disconnecting PDN for up service area |
| Co-located Node | Configures the collocated node name to select the collocated SPGW node IP addresses. |



CHAPTER 84

show mag-service

This chapter includes the **show mag-service** command output tables.

- [show mag-service statistics, on page 1469](#)

show mag-service statistics

Table 379: show mag-service statistics Command Output Descriptions

| Field | Description |
|-------------------------------------|---|
| Binding Update Sent | |
| Total | The total number of all binding updates sent by this system or the specified service. |
| Init Request Xmit | The total number of initial request transmit binding updates sent by this system or the specified service. |
| Init Request Re-Xmit | The total number of initial request retransmit binding updates sent by this system or the specified service. |
| Renew Request Xmit | The total number of renew request transmit binding updates sent by this system or the specified service. |
| Renew Request Re-Xmit | The total number of renew request retransmit binding updates sent by this system or the specified service. |
| Dereg Request Xmit | The total number of deregistration request transmit binding updates sent by this system or the specified service. |
| Dereg Request Re-Xmit | The total number of deregistration request retransmit binding updates sent by this system or the specified service. |
| Binding Acknowledgement Rcvd | |
| Total | The total number of all binding acknowledgments received by this system or the specified service. |

| Field | Description |
|------------------------|---|
| Errors | The total number of all binding acknowledgments, with errors, received by this system or the specified service. |
| Accepted | The total number of all binding acknowledgments received, and accepted by this system or the specified service. |
| Denied | The total number of all binding acknowledgments received, but denied by this system or the specified service. |
| Init Accepted | The total number of initial binding acknowledgments received at MAG with Success code. |
| Init Reply Rcvd | The total number of all binding acknowledgments - initial reply received by this system or the specified service. |
| Renew Reply Rcvd | The total number of all binding acknowledgments - renew reply received by this system or the specified service. |
| Dereg Reply Rcvd | The total number of all binding acknowledgments - deregistration reply received by this system or the specified service. |
| Denied by LMA | |
| Insufficient Resources | The total number of binding updates sent by this system or the specified service but denied by the LMA due to insufficient resources. |
| Mismatched ID | The total number of binding updates sent by this system or the specified service but denied by the LMA due to mismatched IDs. |
| MN Auth Failure | The total number of binding updates sent by this system or the specified service but denied by the LMA due to mobile node authorization failures. |
| Admin Prohibited | The total number of binding updates sent by this system or the specified service but denied by the LMA due to admin prohibited conditions. |
| Msg ID Required | The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing message IDs. |
| DAD Failed | The total number of binding updates sent by this system or the specified service but denied by the LMA due to DAD failures. |
| Not Home Subnet | The total number of binding updates sent by this system or the specified service but denied by the LMA due to incorrect home subnet. |
| Sequence Out Of Window | The total number of binding updates sent by this system or the specified service but denied by the LMA due to sequence out of window conditions. |

| Field | Description |
|-------------------------------|--|
| Reg Type Change Disallowed | The total number of binding updates sent by this system or the specified service but denied by the LMA due to registration type change disallowed. |
| Unspecified Reason | The total number of binding updates sent by this system or the specified service but denied by the LMA due to unspecified reasons. |
| Service-Authorization Failed | The total number of binding updates sent by this system or the specified service but denied by the LMA due to failed service authorizations. |
| Proxy Reg Not Enabled | The total number of binding updates sent by this system or the specified service but denied by the LMA due to proxy registration not being enabled. |
| Timestamp Mismatch | The total number of binding updates sent by this system or the specified service but denied by the LMA due to timestamp mismatches. |
| Timestamp Lower Than Expected | The total number of binding updates sent by this system or the specified service but denied by the LMA due to lower than expected timestamps. |
| Missing MN-ID Option | The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing mobile node ID options. |
| Missing HNP Option | The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing HNP options. |
| Missing Access Tech Option | The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing access technology options. |
| Missing Handoff Ind Option | The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing handoff indication options. |
| Not Authorized For HNP | The total number of binding updates sent by this system or the specified service but denied by the LMA due to not being authorized for HNP. |
| Not LMA For Mobile | The total number of binding updates sent by this system or the specified service but denied by the LMA due incorrect LMA for mobility. |
| Not Authorized For Proxy Reg | The total number of binding updates sent by this system or the specified service but denied by the LMA due to not being authorized for proxy registration. |

| Field | Description |
|--|--|
| BCE Prefix Do Not Match | The total number of binding updates sent by this system or the specified service but denied by the LMA due to BCE prefix mismatches. |
| Binding Acknowledgement Error Reason | |
| Missing HNP | The total number of binding acknowledgements with missing HNP errors received by this system or the specified service. |
| Missing NAI | The total number of binding acknowledgements with missing NAI errors received by this system or the specified service. |
| Home Address Conflict | The total number of binding acknowledgements with home address conflict errors received by this system or the specified service. |
| Matching Request Not Found | The total number of binding acknowledgements with matching requests not found errors received by this system or the specified service. |
| Badly Formed | The total number of binding acknowledgements with badly formed message errors received by this system or the specified service. |
| Checksum Error | The total number of binding acknowledgements with checksum errors received by this system or the specified service. |
| Session Not Found | The total number of binding acknowledgements with session not found errors received by this system or the specified service. |
| Wrong LMA Address | The total number of binding acknowledgements with wrong LMA address errors received by this system or the specified service. |
| Binding Revocation | |
| Sent | The total number of binding revocations sent by this system or the specified service. |
| Retries Sent | The total number of binding revocation retries sent by this system or the specified service. |
| Ack Rcvd | The total number of binding revocation acknowledgements received by this system or the specified service. |
| Not Acknowledged | The total number of binding revocations sent, but not acknowledged, by this system or the specified service. |
| Rcvd | The total number of binding revocations received by this system or the specified service. |
| Ack Sent | The total number of binding revocation acknowledgements sent by this system or the specified service. |
| Received Binding Revocation Trigger Reasons | |

| Field | Description |
|-----------------------------------|---|
| Unspecified | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Unspecified" revocation trigger reason. |
| Administrative Reason | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Administrative Reason" revocation trigger reason. |
| Inter-MAG Handoff-Same ATT | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG Handoff-Same ATT" revocation trigger reason. |
| Inter-MAG - Unknown Handoff | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG - Unknown Handoff" revocation trigger reason. |
| Inter-MAG Handoff-Diff ATT | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG Handoff-Diff ATT" revocation trigger reason. |
| Per-Peer Policy | The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "Per-Peer Policy" revocation trigger reason. |
| Revoking Node Local Policy | The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "Revoking Node Local Policy" revocation trigger reason. |
| User Initiated Session Term | The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "User Initiated Session Term" revocation trigger reason. |
| Access Network Session Term | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Access Network Session Term" revocation trigger reason. |
| Out-of Sync BCE State | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Out-of Sync BCE State" revocation trigger reason. |
| Unknown | The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Unknown" revocation trigger reason. |
| Sent Revocation ACK Status | |
| Success | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Success" status. |
| Partial-Success | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Partial-Success" status. |

| Field | Description |
|--|---|
| Binding-Does-Not-Exist | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Binding-Does-Not-Exist" status. |
| No IPv4-HoA-Bind | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "No IPv4-HoA-Bind" status. |
| Global-Revoc-Not-Authorized | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Global-Revoc-Not-Authorized" status. |
| Revoc-MN-ID-Required | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-MN-ID-Required" status. |
| Revoc-Failed-MN-Attached | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-Failed-MN-Attached" status. |
| Trigger-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Trigger-Not-Supported" status. |
| Proxy-Bind-Rev-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Proxy-Bind-Rev-Not-Supported" status. |
| Revoc-Func-Not-Supported | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-Func-Not-Supported" status. |
| Unknown | The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with an "Unknown" status. |
| Binding Revocation Indication Discarded | |
| Total | The total number of binding revocation acknowledgements received and discarded by this system or the specified service. |
| Session Not Found | The total number of binding revocation acknowledgements received and discarded, due to a session not found condition, by this system or the specified service. |
| Badly Formed Request | The total number of binding revocation acknowledgements received and discarded, due to a badly formed request condition, by this system or the specified service. |
| Decode Error | The total number of binding revocation acknowledgements received and discarded, due to a decode error condition, by this system or the specified service. |

| Field | Description |
|--|---|
| Checksum Error | The total number of binding revocation acknowledgements received and discarded, due to a checksum error condition, by this system or the specified service. |
| Invalid Message Type | The total number of binding revocation acknowledgements received and discarded, due to a invalid memory type condition, by this system or the specified service. |
| No Memory | The total number of binding revocation acknowledgements received and discarded, due to insufficient memory, by this system or the specified service. |
| Wrong LMA Address | The total number of binding revocation acknowledgements received and discarded, due to wrong LMA address condition, by this system or the specified service. |
| Tunnel Data Received | |
| Total Packets | The total number of tunnel packets received by this system or the specified service. |
| 6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6) | <p>The total number of IPv6-in-IPv6 tunnel packets received by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 tunnel packets received by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 GRE tunnel packets received by this system or the specified service.</p> <p>The total number of IPv6-in-IPv6 GRE tunnel packets received by this system or the specified service.</p> |
| Total Bytes | The total number of tunnel bytes received by this system or the specified service. |
| 6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6) | <p>The total number of IPv6-in-IPv6 tunnel bytes received by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 tunnel bytes received by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 GRE tunnel bytes received by this system or the specified service.</p> <p>The total number of IPv6-in-IPv6 GRE tunnel bytes received by this system or the specified service.</p> |
| Errors | |
| Protocol Type Error | The total number of protocol type data errors received by this system or the specified service. |
| Invalid Pkt Length | The total number of invalid packet length data errors received by this system or the specified service. |

| Field | Description |
|--|---|
| No Session Found | The total number of no session found data errors received by this system or the specified service. |
| Tunnel Data Sent | |
| Total Packets | The total number of tunnel packets sent by this system or the specified service. |
| 6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6) | <p>The total number of IPv6-in-IPv6 tunnel packets sent by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 tunnel packets sent by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 GRE tunnel packets sent by this system or the specified service.</p> <p>The total number of IPv6-in-IPv6 GRE tunnel packets sent by this system or the specified service.</p> |
| Total Bytes | The total number of tunnel bytes sent by this system or the specified service. |
| 6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6) | <p>The total number of IPv6-in-IPv6 tunnel bytes sent by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 tunnel bytes sent by this system or the specified service.</p> <p>The total number of IPv4-in-IPv6 GRE tunnel bytes sent by this system or the specified service.</p> <p>The total number of IPv6-in-IPv6 GRE tunnel bytes sent by this system or the specified service.</p> |
| LMA Fallback Support Stats | |
| LMA Fallback Attempted | The total number of attempted P-GW fallbacks by this system or the specified service. |
| LMA Fallback Success | The total number of successful P-GW fallbacks by this system or the specified service. |
| LMA Fallback Failure | The total number of failed P-GW fallbacks by this system or the specified service. |
| Demux Update Failure | The total number of demux update failures during P-GW fallback by this system or the specified service. |
| Alternate PGW Not Found | The total number of times an alternate P-GW was not found during P-GW fallback by this system or the specified service. |
| PGW Rejects | The total number of P-GW rejections received during P-GW fallback by this system or the specified service. |

| Field | Description |
|-----------------------------------|---|
| PGW Timeouts | The total number of P-GW timeouts during P-GW fallback by this system or the specified service. |
| Total Disconnects/Failures | |
| Lifetime expiry | The total number of disconnects due to lifetime expiry initiated by this system or the specified service. |
| Access Initiated Term | The total number of disconnects due to deregistrations initiated by this system or the specified service. |
| Admin Drops | The total number of disconnects due to admin drops initiated by this system or the specified service. |
| Other Reasons | The total number of disconnects due to "other reasons" initiated by this system or the specified service. |
| LMA Revocations | The total number of disconnects due to LMA revocations received by this system or the specified service. |



CHAPTER 85

show mbms bearer-service

This chapter includes the **show mbms bearer-service** command output tables.

- [show mbms bearer-service full all, on page 1479](#)

show mbms bearer-service full all

Table 380: show mbms bearer-service full all Command Output Descriptions

| Field | Description |
|--------------------------|---|
| MBMS Bearer Context ID | Specifies the identifier for bearer context used for MBMS service. |
| State | Specifies the state of bearer service instance. |
| Mcast Address | Specifies the IP address of BM-SC (Broadcast Multicast - Service Center) server bind to this instance. |
| APN | Specifies the name if the APN bind to this bearer instance. |
| Session Identity | Indicates the identifier for MBMS session active on system. |
| TMGI | indicates the globally unique Temporary Mobile Group Identity (TMGI) allocated by the BM-SC (Broadcast Multicast - Service Center) per MBMS bearer service. |
| MBMS Bearer Capabilities | Displays the value to indicate MBMS bearer capabilities in Activate MBMS Context Request message. |
| Service Area Length | Specifies the length of character string configured to indicate MBMS service area. Service area is the area within which data of a specific MBMS session are sent. Each individual MBMS session of an MBMS Bearer Service may be sent to a different MBMS Service Area. |
| MBMS 2G/3G indication | Displays the value to indicate type of service networks 2G GPRS network or 3G UMTS in Activate MBMS Context Request message. |

| Field | Description |
|--------------------------------------|--|
| Counting Info | Displays the value to indicate counting information for message broadcast in MBMS service area. |
| Session Repetition Number | Indicates the number of times the MBMS session retransmitted the broadcast message. |
| MBMS-Session-Identity | Specifies the MBMS session identifier. |
| MBMS-BMSC-SSM-IP | Indicates the IP address configured in IPv4 format with MBMS service and BM-SC server for interface. |
| Service Type | Specifies the type of service active for this instance of bearer service. Possible values are: UnicastMulticast |
| Session Started | Indicates whether MBMS service started or not. |
| BMSC supported user mode | Indicates the supported user mode on BM-SC for this instance of session. It can be Unicast (Broadcast) and/or Multicast. |
| GGSN selected user mode | Indicates the user mode selected by GGSN for this instance of session. It can be Ucast (Unicast) and/or Mcast (Multicast). |
| Time to Xfer | Indicates the time taken to transfer the message from system to UE. |
| Session Duration | Indicates the time elapsed after MBMS session started. |
| Num MBMS UEs | Indicates total number of UEs connected for this session. |
| Num MBMS Bearer | Indicates total number of MBMS bearer session instances active for this session. |
| Quality Of Service | Indicates the configured or updated QoS parameters for this bearer instance. |
| Traffic Classl | Specifies the class of traffic of active MBMS session. Possible values are: CoversationalStreaming |
| Maximum Bit Rate Uplink | Indicates the MBR supported/configured for data flow in uplink (to PDN) direction. |
| Maximum Bit Rate Downlink | Indicates the MBR supported/configured for data flow in downlink (from PDN) direction. |
| Guaranteed Bit Rate Uplink | Indicates the GBR supported/configured for data flow in uplink (to PDN) direction. |
| Guaranteed Bit Rate Downlink | Indicates the GBR supported/configured for data flow in downlink (from PDN) direction. |
| Total Number of MBMS Bearer Services | Indicates the total number of MBMS bearer instances are active. |



CHAPTER 86

show mipfa

This chapter includes the **show mipfa** command output tables.

- [show mipfa full username](#), on page 1481
- [show mipfa peers fa-service](#), on page 1484

show mipfa full username

Table 381: show mipfa full username Command Output Descriptions

| Field | Description |
|------------------------|---|
| Username | The subscriber's username. |
| Callid | The subscriber's call identification number (callid). |
| MSID | The subscriber's Mobile Station Identification number (MSID). |
| Num Agent Advt Sent | The total number of agent advertisement messages sent by the FA to the subscriber's mobile node. |
| Num Agent Solicit Rcvd | The total number of agent solicitation messages received by the FA from the subscriber's mobile node. |
| Home Address | The IP address assigned to the subscriber's mobile node for the duration of the session. |
| NAI | The subscriber's Network Access Identifier (NAI). |
| FA Address | The IP address of the FA that is facilitating the subscriber's Mobile IP session. |
| HA Address | The IP address of the Home Agent that is facilitating the subscriber's Mobile IP session. |
| Lifetime | The accepted lifetime interval for this session. |
| Remaining Lifetime | The amount of time that remains after which the session expires and is torn down. |

| Field | Description |
|----------------------------|--|
| Reverse Tunneling | Displays whether or not reverse tunneling is implemented for the subscriber's session. |
| Encapsulation Type | The encapsulation method used for the subscriber's session. |
| GRE Key | The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type |
| IPSec Required | Indicates whether or not IPSec is required for the subscriber Mobile IP session. |
| IPSec Ctrl Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the control tunnel has been established. |
| IPSec Data Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the data tunnel has been established. |
| MN-AAA Removal | Shows if mn-aaa-removal-indication is enable or disabled. The possible values are: <ul style="list-style-type: none"> • enabled • disabled |
| Proxy MIP | Shows if Proxy Mobile IP is enabled or disabled for this subscriber session. Possible values are: <ul style="list-style-type: none"> • enabled • disabled |
| DMU Auth Failures | The total number of failed Dynamic MIP Key Update authentications for this subscriber session. |
| Send Terminal Verification | Shows if the FA is enabled to send the terminal verification NVSE in the RRQ. for this subscriber session. Possible values are: <ul style="list-style-type: none"> • enabled • disabled |
| Revocation Negotiated | Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Possible values are : <ul style="list-style-type: none"> • NO • YES |

| Field | Description |
|-----------------------------|---|
| Revocation I Bit Negotiated | Indicates whether or not the Revocation I bit was negotiated. Possible values are : <ul style="list-style-type: none"> • NO • YES |
| MN-HA-SPI Present | Status of dynamic MN-HA-SPI received from AAA in RRP for this subscriber session. |
| MN-HA-SPI | Specifies the dynamic MN-HA Security Parameter Index (SPI) number received from AAA in RRP for this subscriber session. |
| FA-HA-SPI Present | Status of dynamic FA-HA-SPI received from AAA in RRP for this subscriber session. |
| FA-HA-SPI | Specifies the dynamic FA-HA Security Parameter Index (SPI) number received from AAA in RRP for this subscriber session. |
| FA-HA-Key-Present | The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are: <ul style="list-style-type: none"> • True • False |
| FA-HA-SPI | FA - HA security parameter index (SPI) |
| HA-RK-Key-Present | The HA root key (RK) received by the HA from the AAA in the Radius Access-Accept. Checks for presence of HA-RK key. Options are: <ul style="list-style-type: none"> • True • False Note: True indicates a WiMAX session. |
| HA-RK-SPI | HA - RK security parameter index (SPI) Note: This field applies to WiMAX sessions only. |
| HA-RK-Lifetime | The total lifetime applied to an HA-RK. Note: This field applies to WiMAX sessions only. |
| HA-RK-Remaining-Lifetime | The total remaining lifetime for the HA-RK. Note: This field applies to WiMAX sessions only. |

show mipfa peers fa-service

Table 382: show mipfa peers fa-service Command Output Descriptions

| Field | Description |
|------------------------|---|
| Context | The name of the context where the FA service is located. |
| FA Service | The name of the FA service. |
| Peer Address | The IP address of the peer. |
| Current Sessions | The number of sessions currently running on the peer. |
| Total Sessions | The total number of current and past sessions for the peer. |
| IP Security | Specifies if IP security is enabled or disabled on the peer. |
| FA-HA Authentication | Specifies if FA-HA authentication is enabled or disabled on the peer. |
| HA Monitor Status | Specifies if HA monitor is enabled or disabled on the peer. |
| Total Peers | The total number of peers in the output of this show command. |
| Total Current Sessions | The total number of sessions across all peers in the output of this show command. |



CHAPTER 87

show mipha

This chapter includes the **show mipha** command output tables.

- [show mipha statistics ha-service](#), on page 1485
- [show mipha full username](#), on page 1491
- [show mipha peers ha-service](#), on page 1494

show mipha statistics ha-service

Table 383: show mipha statistics ha-service Command Output Descriptions

| Field | Description |
|--------------------------------------|--|
| HA Service | The name of the HA service for which the statistics are displayed. |
| MIP AAA Authentication | |
| Attempts | The number of authentication attempts by the HA including those that are authenticated locally. |
| Success | The number of authentication attempts completed successfully by the HA including those that are authenticated locally. |
| Total Failures | The total number of failed AAA authentication attempts that were facilitated. |
| Actual Auth Failures | The number of AAA authentication attempts that were rejected by the AAA server. |
| Misc Auth Failures | The number of miscellaneous authorization failures. |
| Registration Request Received | |
| Total Received Reg | The total number of registration requests received. |
| Total Accepted Reg | The total number of registration requests accepted. |
| Total Denied Reg | The total number of registration requests that were denied. |
| Total Discarded Reg | The total number of registration requests that were discarded. |

| Field | Description |
|--------------------------|---|
| Congestion Discarded Reg | The number of requests discarded when congestion control is enabled and the system is in a congested state. |
| Initial Reg Requests | |
| Received | The number of initial registration requests received. |
| Accepted | The number of initial registration requests accepted. |
| Denied | The number of initial registration requests denied. |
| Renew Reg Requests | |
| Received | The number of renewal registration requests received. |
| Accepted | The number of renewal registration requests accepted. |
| Denied | The number of renewal registration requests denied. |
| DeReg Requests | |
| Received | The number of requests for de-registration received. |
| Accepted | The number of requests for de-registration accepted. |
| Denied | The number of requests for de-registration denied. |
| Handoff Requests | |
| | <p>The number of handoff requests by HA for an existing session.</p> <ul style="list-style-type: none"> • Total: • 3GPP2 => 3GPP2: • 3GPP2 => WiMax: • WiMax => 3GPP2: • WiMax => WiMax: |
| Received | The number of handoff request received by HA for an existing session. |
| Accepted | The number of handoff request accepted by HA. |
| Denied | The number of handoff request denied by HA. |
| Registration Reply Sent | |
| Total | The number of registration replies sent. |
| Accepted Reg | The number of successful registration replies sent. |
| Accepted DeReg | The number of successful de-registration replies sent. |
| Denied | The number of denied registration replies sent. |
| Bad Request | The number of denied registration replies that were sent with a reply code of 86H (Registration Denied - poorly formed request). |

| Field | Description |
|--|--|
| Mismatched ID | The number of denied registration replies that were sent with a reply code of 85H (Registration Denied - registration identification mismatch). |
| MN Auth Failure | The number of denied registration replies that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication). |
| FA Auth Failure | The number of denied registration replies that were sent with a reply code of 84H (Registration Denied - home agent failed authentication). |
| Admin Prohibited | The number of denied registration replies that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |
| No Resources | The number of denied registration replies that were sent with a reply code of 82H (Registration Denied - insufficient resources). |
| Simul Bindings Exceeded | The number of denied registration replies that were sent with a reply code of 87H (Registration Denied - too many simultaneous mobility bindings). |
| Unknown HA | The number of denied registration replies that were sent with a reply code of 88H (Registration Denied - unknown home agent address). |
| Rev Tunnel Unavailable | The number of denied registration replies that were sent with a reply code of 89H (Registration Denied - reverse tunneling unavailable). |
| Rev Tunnel Mandatory | The number of denied registration replies that were sent with a reply code of 8AH (Registration Denied - reverse tunneling mandatory). |
| Encap Unavailable | The total number of denied registration replies that were sent with a reply code of 8BH (Registration Denied - reverse tunneling encapsulation style unavailable). |
| Send Error | The total number of errors that occurred while sending replies. |
| Unspecified Reason | The total number of denied registration replies that were sent with a reply code of 80H (Registration Denied - reason unspecified). |
| Unknown CVSE Rcvd | The total number of messages discarded because of an FA reply code of 100 (Critical Vendor Specific Extension Received). |
| UDP Encap Unavailable | Indicates registration denial caused by unavailable (minimal or GRE) UDP tunnel encapsulation modes. |
| RRQ Denied Overload/Congestion Control | |

| Field | Description |
|--------------------------|---|
| Admin Prohibited(reject) | The number of RRQs rejected when congestion control is enabled and the system is in a congested state. |
| Unknown HA (redirect) | The number of RRQs redirected to an alternate HA when congestion control is enabled and the system is in a congested state. |
| Registration Revocation | |
| Sent | Total registration revocation messages sent to the FA. |
| Retries Sent | Total registration revocation messages re-sent to the FA. |
| Ack Rcvd | Total registration revocation request acknowledgements received from the FA. |
| Not Acknowledged | Total registration revocation request messages that timed-out before an acknowledgement was received from the FA. |
| Rcvd | Total registration revocation request messages received from the FA. |
| Ack Sent | Total registration revocation request acknowledgements sent to the FA. |
| P-AAA Messages: | |
| BC Query Requests: | |
| Received | The total number of Binding Cache requests received from the proxy-AAA server. |
| Accepted | The total number of Binding Cache requests received from the proxy-AAA server that were accepted. |
| Denied | The total number of Binding Cache requests from the proxy-AAA server that were denied. |
| Discarded | The total number of Binding Cache requests from the proxy-AAA server that were discarded. |
| BC Query Responses: | |
| Sent | The total number of Binding Cache responses that were sent to the proxy-AAA server. |
| BC Found | The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that the requested binding context was found. |
| BC Not Found | The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that the requested binding context was not found. |

| Field | Description |
|----------------------|--|
| IP Pool Overflow | The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that there is an IP Pool overflow condition for the requested binding context. |
| Miscellaneous | The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated other miscellaneous errors for the requested binding context. |
| HA-IPSEC Tunnels | |
| Requests Received | The total number of HA-IPSEC tunnel session requests received. |
| Initiated | The total number of HA-IPSEC session requests received and initiated. |
| Denied | The total number of HA-IPSEC session requests received and denied. |
| Discarded | The total number of HA-IPSEC sessions initiated and discarded. |
| Connected | The total number of HA-IPSEC sessions initiated and connected. |
| Failed | The total number of HA-IPSEC sessions initiated, connected and failed. |
| Tunnel Data Received | |
| Total Packets | Total number of encapsulated packets received by this system. |
| IPIP | Total number of IP-in-IP encapsulated packets received by this system. |
| GRE | Total number of GRE tunneled packets received by this system. |
| IP-UDP | Total number of IP-in-UDP packets received by the system. |
| MIP-IPSEC | Total Number of MIP IP Sec packets received by the system. |
| Total Bytes | Total number of encapsulated bytes received by this system. |
| IPIP | Total number of IP-in-IP encapsulated bytes received by this system. |
| GRE | Total number of GRE encapsulated bytes received by this system. |
| IP-UDP | Total number of IP-in-UDP bytes received by the system. |
| MIP-IPSEC | Total Number of MIP IP Sec bytes received by the system. |
| Errors | |
| Protocol Type Error | Total number of encapsulated packets received with protocol type errors. |

| Field | Description |
|-------------------------|---|
| GRE Key Absent | Total number of GRE tunneled key absent errors received. |
| GRE Checksum Error | Total number of checksum errors that occurred in GRE tunnels received by this system. |
| Invalid Packet Length | Total number of encapsulated packets received with invalid packet lengths. |
| No Session Found | Total number of errors that occurred due to no session being present in received tunnels. |
| Tunnel Data Sent | |
| Total Packets | The total number of encapsulated packets sent by this system. |
| IPIP | The total number of IP-in-IP encapsulated packets sent by this system. |
| GRE | The total number of GRE encapsulated packets sent by this system. |
| IP-UDP | Total number of IP-in-UDP packets sent by the system. |
| MIP-IPSEC | Total Number of MIP IP Sec packets sent by the system. |
| Total Bytes | The total number of encapsulated bytes sent by this system. |
| IPIP | The total number of IP-in-IP encapsulated bytes sent by this system. |
| GRE | The total number of GRE encapsulated bytes sent by this system. |
| IP-UDP | Total number of IP-in-UDP bytes sent by the system. |
| MIP-IPSEC | Total Number of MIP IP Sec bytes sent by the system. |
| Total Disconnects | The total number of sessions that were disconnected. |
| Lifetime expiry | The total number of sessions that were disconnected due to the expiration of their lifetime setting. |
| Deregistrations | The total number of sessions that were disconnected due to de-registrations. |
| Admin Drops | The total number of sessions that were disconnected due to an administrative clearing of calls (i.e. executing the clear subscribers command). |
| FA Revocations | The total number of disconnects that were due to revocations received from the FA. |
| IPSEC Tunnel Down | The total number of sessions that were disconnected due to IPSEC tunnels down. |

| Field | Description |
|------------------------|---|
| Stale Key Disconnect | The number of sessions that were disconnected due to a Stale Key. |
| Other Reasons | The total number of disconnects that were due to reasons other than those already listed. |
| HA Monitoring | |
| Monitor RRQ Received | The total number of HA monitor request messages received by this HA due to inactivity. |
| Monitor RRP Sent | The total number of HA monitor response messages sent by this HA. |
| DMU Refresh Key | |
| Attempted | The number of Dynamic Mobile IP Key Update refreshes attempted. |
| Invalid Packets | |
| Discarded | The number of invalid packets discarded. |

show mipha full username

Table 384: show mipha full username Command Output Descriptions

| Field | Description |
|--|---|
| Username | Subscriber's username |
| Callid | Subscriber's call identification number |
| MSID | Subscriber's mobile station identification number (MSID) |
| Home Address | IP address assigned to the subscriber's mobile node for the session |
| HA Address | IP address of the HA facilitating the subscriber's MIP session |
| Send NAI Extension in Revocation Message | Indicates whether or not an NAI extension is sent in a revocation message for this user. Options are: <ul style="list-style-type: none"> • No • Yes |

| Field | Description |
|--------------------------|---|
| Binding # | The mobility binding record (MBR) number associated with a particular subscriber session. Since it is possible for a single subscriber to have multiple bindings, information for each of the subscriber's binding records will be displayed according to the MBR number. |
| Care of Address | The IP address of the device terminating the tunnel to the mobile node. The address may belong to either a Foreign Agent that is facilitating the subscriber's Mobile IP session or another device that the mobile node is associated (co-located) with. |
| FA Address | The IP address of the Foreign Agent that is facilitating the subscriber's Mobile IP session. |
| Lifetime | The maximum amount of time that the subscriber's session can remain registered. |
| Remaining Life | The amount of time that is currently available to the subscriber to remain registered. |
| Reverse Tunneling | Displays whether or not reverse tunneling is enabled for the subscriber's session. |
| Encapsulation Type | The encapsulation method used for the subscriber's session. |
| GRE Key | The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type |
| IPSec Required | Indicates whether or not IPSec is required for the subscriber Mobile IP session. |
| IPSec Ctrl Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the control tunnel has been established. |
| IPSec Data Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the data tunnel has been established. |
| Revocation Negotiated | Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Options are: <ul style="list-style-type: none"> • No • Yes |
| Rev I bit Negotiated | Indicates whether or not the Revocation I bit was negotiated. Possible values are : <ul style="list-style-type: none"> • No • Yes |

| Field | Description |
|-------------------|--|
| Colocated COA | Indicates whether or not the subscribers that registered a MIP colocated COA directly with the HA. Options are: <ul style="list-style-type: none"> • No • Yes |
| NAT Detected | Indicates whether or not network address translation (NAT) is detected. Options are: <ul style="list-style-type: none"> • No • Yes |
| MN-HA-Key-Present | The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of mobile node (MN) - home agent (HA) key. Options are: <ul style="list-style-type: none"> • True • False |
| MN-HA-SPI | Mobile node (MN) - home agent (HA) security parameter index (SPI). |
| FA-HA-Key-Present | The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are: <ul style="list-style-type: none"> • True • False |
| FA-HA-SPI | FA - HA security parameter index (SPI) |
| HA-RK-Key-Present | The HA root key (RK) received by the HA from the AAA in the Radius Access-Accept. Checks for presence of HA-RK key. Options are: <ul style="list-style-type: none"> • True • False Note: True indicates a WiMAX session. |
| HA-RK-SPI | HA - RK security parameter index (SPI) Note: This field applies to WiMAX sessions only. |

| Field | Description |
|--------------------------|---|
| HA-RK-Lifetime | The total lifetime applied to an HA-RK. Note: This field applies to WiMAX sessions only. |
| HA-RK-Remaining-Lifetime | The total remaining lifetime for the HA-RK. Note: This field applies to WiMAX sessions only. |

show mipha peers ha-service

Table 385: show mipha peers ha-service Command Output Descriptions

| Field | Description |
|------------------------|---|
| Context | The name of the context where the HA service is located. |
| HA Service | The name of the HA service. |
| Peer Address | The IP address of the peer. |
| Current Sessions | The number of sessions currently running on the peer. |
| Total Sessions | The total number of current and past sessions for the peer. |
| IP Security | Specifies if IP security is enabled or disabled on the peer. |
| FA-HA Authentication | Specifies if FA-HA authentication is enabled or disabled on the peer. |
| Total Peers | The total number of peers in the output of this show command. |
| Total Current Sessions | The total number of sessions across all peers in the output of this show command. |



CHAPTER 88

show mipv6ha

This chapter includes the **show mipv6ha** command output tables.

- [show mipv6ha-service all, on page 1495](#)
- [show mipv6ha statistics, on page 1496](#)

show mipv6ha-service all

Table 386: show mipv6ha-service all Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Service Name | The mipv6ha service name. |
| Context | The context in which the service is configured. |
| Bind | The bind status. |
| Max Subscribers | The maximum number of subscribers. |
| Local IPv6 Address | IPv6 address of the server where this service is located. |
| Lifetime | The accepted lifetime interval for this session. |
| Simul Bindings | Specifies the maximum number of "care-of" addresses that can simultaneously be bound for the same user as identified by NAI and Home address. |
| Setup Timeout | The session setup timeout duration. |
| Sequence Number Validation | Specifies the sequence number validation of the received MIPV6 control packet by the Home Agent (HA) as per RFC 3775. |
| Refresh Advice Option | Displays the refresh advice option in the binding acknowledgements sent by the home agent. |
| Refresh Interval Percent | Displays the amount of the granted lifetime to be used in the refresh interval mobility option in Binding Acknowledgement sent by the HA. |

| Field | Description |
|-----------------------------|---|
| Timestamp Replay Protection | Displays the acceptable difference in timing (between timestamps) before rejecting packet. |
| Timestamp Tolerance | Total variation allowed in timestamp mismatch. |
| Default Subscriber | Name of the default subscriber. |
| AAA accounting | Displays if AAA accounting is enabled or disabled. |
| Service Status | Status of this service. |
| Newcall Policy | Specify that the new call policy enabled or disabled to handle new calls. Possible values are: <ul style="list-style-type: none"> • NONE • REJECT |

show mipv6ha statistics

Table 387: show mipv6ha statistics Command Output Descriptions

| Field | Description |
|----------------------------------|---|
| MIP AAA Authentication: | |
| Attempts: | Total MIP AAA Authentication attempts. |
| Success: | Total MIP AAA Authentication attempts that were successful. |
| Total Failures: | Total MIP AAA Authentication attempts that failed. |
| Actual Auth Failures: | Actual number of MIP AAA Authentication that failed. |
| Misc Auth Failures: | Total number of MIP AAA Authentication that failed. |
| Binding Updates Received: | |
| Total Received: | Total number of Binding Updates that were received. |
| Total Accepted: | Total number of Binding Updates that were accepted. |
| Total Denied: | Total number of Binding Updates that were denied. |
| Total Discarded: | Total number of Binding Updates that were discarded. |
| Congestion Discarded Reg: | The total number of requests discarded when congestion control is enabled and the system is in a congested state. |
| Initial Binding Update Requests: | |

| Field | Description |
|----------------------------------|---|
| Received: | Total number of Initial Binding Update Requests that were received. |
| Accepted: | Total number of Initial Binding Update Requests that were accepted. |
| Denied: | Total number of Initial Binding Update Requests that were denied. |
| Refresh Binding Update Requests: | |
| Received: | Total number of Refresh Binding Update Requests that were received. |
| Accepted: | Total number of Refresh Binding Update Requests that were accepted. |
| Denied: | Total number of Refresh Binding Update Requests that were denied. |
| DeReg Requests: | |
| Received: | Total number of requests for de-registration that were received. |
| Accepted: | Total number of requests for de-registration that were accepted. |
| Denied: | Total number of requests for de-registration that were denied. |
| Handoff Requests: | |
| Received: | Total number of requests for handoffs that were received. |
| Accepted: | Total number of requests for handoffs that were accepted. |
| Denied: | Total number of requests for handoffs that were denied. |
| Binding Acknowledgements Sent: | |
| Total: | Total number of requests for Binding Acknowledgements. |
| Accepted Reg: | The total number of registration requests accepted. |
| Accepted DeReg: | The total number of deregistration requests accepted. |
| Denied: | The total number of registration requests denied. |
| Send Error: | The total number of errors that occurred while sending replies. |
| Binding Update Deny Reasons: | |
| Insufficient Resources: | The total number of binding update requests that were denied because of insufficient resources. |
| Mismatched ID: | The total number of binding update requests that were denied because of a mismatched ID. |

| Field | Description |
|--|---|
| MN Auth Failure: | The total number of binding update requests that were denied because of a MN authentication failure. |
| Admin Prohibited: | The total number of registration requests that were denied due to being administratively prohibited. |
| Msg ID Required: | The total number of bind update denied with status code 91H (Msg-Id-Required). |
| DAD Failed: | The total number of bind update denied with status code 86H (Duplicate Address Detection failed). |
| Not Home Subnet: | The total number of bind update denied with status code 84H (Not Home Subnet) |
| Sequence Out Of Window: | The total number of bind update denied with status code 87H (Sequence number Out of Window). |
| Reg Type Change Disallowed: | The total number of bind update denied with status code 8BH (Registration Type change disallowed). |
| Unspecified Reason: | The total number of bind update denied with status code 80H (Reason Unspecified). |
| Update Denied - Insufficient Resource Reasons: | The total number of binding update requests that were denied because of Insufficient Resources. |
| No Session Manager: | The total number of binding update requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| Binding Updates Discard Reasons: | |
| Congestion Discarded: | HAMGR discards when configured to drop packets on congestion |
| Checksum Error: | v6HA driver discard on checksum failure for BU packet |
| Initial Auth Pending: | V6HA driver discard when retry BU's are received. Discarded packet is included as part of Init/Renew/Dereg/Handoff request counters as packet is discarded before processing them in detail. |
| Session Not Found: | When HAMGR forwards RRQ for existing session but session is not found in Sessmgr |
| HAMGR Not Ready: | When HAMGR is not yet ready and packet buffering limit is exceeded |
| Decode Failure: | When BU packet decoding fails in HAMGR. |
| Invalid Buffer Length: | When there is mismatch in BU packet buffer length and expected length. |



CHAPTER 89

show mme

This chapter includes the **show mme** command output tables.

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show mme-service all

Table 388: show mme-service all Command Output Descriptions

| Field | Description |
|--------------|--|
| Service name | The name of the MME service configured and running on the system. |
| Context | The name of the VPN context in which MME service configured and running on the system. |

| Field | Description |
|-------------------------------|---|
| Status | Indicates whether MME service is started or not. |
| Bind | Indicates whether an S1-MME reference point is bound to an interface in the configured MME service or not. |
| S1-MME IP Address | The IP address of the chassis on which MME service is configured. This is the S1-MME interface IP address of MME service. |
| Crypto-Template Name | The configured crypto-template name associated with the MME service. |
| Max Subscribers | The configured number of subscribers allowed on the MME service. |
| S1-MME sctp port | The source port number for SCTP communication. This source SCTP port will be used for binding the SCTP socket to communicate with the eNodeB using S1-MME with this MME service |
| MME Code | The MME identifier in EPC networks. This is used to construct the MME identifier. |
| MME Group | The MME group identifier in EPC networks. This works as a group of MMEs in a shared network. The MME group is used to construct the MME identifier. |
| PLMN Id | The Public Land Mobile Network identifier of which this MME service belongs to. It contains Mobile Country Code (MCC) and Mobile Network Code (MNC). |
| PS-LTE Operation | Displays whether the MME service has been enabled for Public Service LTE (PS-LTE) mode (as configured by the ps-lte command). If enabled, this field also displays the IPv4 or IPv6 address for the S11 interface of the co-located S-GW as configured by the same command. |
| Network-Global-MME-ID-Mgmt-DB | The LTE Network Global MME ID Management Database to which this MME Service is associated. This management database is used to manage associations between PLMN IDs and MME group ID ranges. |
| Foreign-PLMN-GUTI-Mgmt-DB | The LTE Foreign PLMN GUTI Management Database to which this MME Service is associated. This management database is used to control the acceptance or immediate reject of Attach Requests and TAU Requests containing a GUTI from a specific PLMN. |

| Field | Description |
|--------------------|--|
| EGTP Context | The name of the VPN context in which Evolved GPRS Tunnelling Protocol (eGTP) service is configured and associated with this MME service to configure different interfaces with MME. Typically it is the destination context on system. |
| EGTP Service | The name of the Evolved GPRS Tunnelling Protocol (eGTP) service which is associated with this MME service to configure different interfaces with MME. |
| EGTP Sv Context | The name of the context in which the egtp-sv-service is configured. |
| EGTP Sv Service | The name of the eGTP Sv service associated with the MME service. |
| SGTPC Context | The name of the context in which the sgtpc-service is configured. |
| SGTPC Service | The name of the SGTPC service associated with the MME service. |
| MME HSS Context | The name of the context in which the HSS peer service is configured. |
| MME HSS Service | The name of the HSS peer service that communicates with an HSS associated with this MME service. |
| SGS Context | The name of the context in which the SGs service is configured. |
| SGS Service | The name of the SGs service associated with this MME service. |
| SMSC Context | The name of the context in which the SMSC service is configured. |
| SMSC Service | The name of the name of the SMSC service associated with the MME service. |
| Location Service | The name of the Location Service (SLg interface) associated with this MME service. |
| Max bearers per MS | The maximum number of bearers per MS allowed with in this MME service. This can be configured between 1 and 11. By default 11 bearers supported per MS. |
| Max PDNs per MS | The maximum number of PDNs per MS allowed with in this MME service. This can be configured between 1 and 3. By default 3 bearers supported per MS. |
| Peer MME GUMMEI | Displays the IP addresses of peer MMEs looked up using GUMMEI during handovers between any radio access technology and the E-UTRAN. |
| Peer MME TAI | Displays the configured TAI Management Database name associated with the service used for peer MME selection. |

| Field | Description |
|-----------------------|---|
| Peer SGSN RAI | Displays the parameters configured for peer SGSN discovery using the Routing Area Identity. |
| Peer SGSN RNCID | Displays the parameters configured for peer SGSN discovery using the Radio Network Controller ID. |
| NRI Length | Displays the NRI length entries configured for this MME service. If none are configured, the display shows "None". |
| PGW | <p>This group The parameters related to Packet Data Network Gateway (P-GW), which is selected by this MME service for providing PDN connectivity to subscribers. This group contains following parameters:</p> <ul style="list-style-type: none"> • Address: The IP address of P-GW which is selected by this MME service for providing PDN connectivity to subscribers. • S5-S8 Protocol: The protocol configured to communicate between Serving Gateway (S-GW) and P-GW on S5 and S8 interface. P-MIP and GTP can be configured on this interface. By default GTP is supported on this interface. • Weight: The weight allotted the selected P-GW for selection of P-GW by MME service. |
| SGW Pool | Displays the configured TAI Management Object name associated with the service used for creating S-GW pools that, in turn, are used for S-GW selection. |
| Peer MME DNS Context | The name of the context where the DNS configuration resides for peer MME associations and discoveries. |
| Peer SGSN DNS Context | The name of the context where the DNS configuration resides for peer SGSN associations and discoveries. |
| PGW DNS Context | The name of the context in which the DNS service configured to locate and select the P-GW by this MME Service. |
| SGW DNS Context | The name of the context in which the DNS service is configured to locate and select the S-GW by this MME Service. |
| DNS MSC Context | The name of the context in which the DNS service is configured to locate and select the MSC by this MME Service. |
| SMSC Context | The name of the context in which the SMSC service is associated to the MME service. |

| Field | Description |
|-------------------------|--|
| Implicit Detach Timeout | <p>The timeout duration in seconds after which subscriber will implicitly be detached from the network if there is no activity. This value can be configured from 1 second to 3600 seconds. By default timeout duration for this timer is 3600 seconds.</p> <p>This timer starts when mobile reachable timer expires while the network is in EMM-IDLE mode and Idle mode Signaling Reduction (ISR) is activated and stops when NAS signalling connection established.</p> <p>Note: Generally this timer value is 240 seconds (4 minutes) more than the timeout value of T3423 timer.</p> |
| T3346 Timeout | <p>Displays the timeout duration configured for the T3346 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes).</p> <p>If an EMM request is rejected by MME because of congestion, it shall have EMM cause as congestion (#22) and shall include back-off timer (T3346) IE. The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3346 timer value.</p> |
| T3412 Timeout | <p>Displays the timeout duration configured for the T3412 timer. This timer is used for periodic tracking area update (P-TAU). When this timer expires, the periodic tracking area updating procedure starts and the timer is set to its initial value for the next start. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the UE goes from EMM-CONNECTED to EMM-IDLE mode and stops when the UE returns to EMM-CONNECTED mode.</p> |
| T3412 Extended Timeout | <p>Displays the timeout duration configured for the T3412 extended timer. This timer is used for periodic tracking area update (P-TAU). This timer helps the MME to reduce network load from periodic TAU signaling and to increase the time until the UE detects a potential need for changing the RAT or PLMN. This timer can be configured to any value from 0 to 1116000 seconds. Default: 3600 seconds (60 minutes).</p> |
| T3413 Timeout | <p>Displays the timeout duration configured for the T3413 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>The timer starts when MME initiates the EPS paging procedure to the EMM entity in the network and requests the lower layer to start paging. This timer stops for the paging procedure when a response is received from the UE.</p> |

| Field | Description |
|--------------------|---|
| T3422 Timeout | <p>Displays the timeout duration configured for the T3422 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the MME initiates the detach procedure by sending a DETACH REQUEST message to the UE and stops upon receipt of the DETACH ACCEPT message.</p> |
| T3423 Timeout | <p>Displays the timeout duration configured for the T3423 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the UE enters the EMM-DEREGISTERED state or when entering the EMM-CONNECTED mode. It stops while the UE is in EMM-REGISTERED-NO-CELL-AVAILABLE state and Idle mode Signaling Reduction (ISR) is activated.</p> |
| T3450 Timeout | <p>Displays the timeout duration configured for the T3450 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the MME initiates the Globally Unique Temporary Identifier (GUTI) reallocation procedure by sending a GUTI REALLOCATION COMMAND message to the UE and stops upon receipt of the GUTI REALLOCATION COMPLETE message.</p> <p>This timer is also used for tracking area update procedures.</p> |
| T3460 Timeout | <p>Displays the timeout duration configured for the T3460 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>The timers starts when the network initiates the authentication procedure by sending an AUTHENTICATION REQUEST message to the UE and stops upon receipt of the AUTHENTICATION RESPONSE message.</p> |
| T3470 Timeout | <p>Displays the timeout duration configured for the T3470 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>The timers starts when the network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and stops upon receipt of the IDENTITY RESPONSE message.</p> |
| ISDA Guard Timeout | <p>Specifies the expiry time to wait to receive the UEs current location information.</p> |

| Field | Description |
|-----------------------------|---|
| ISDA Location Validity Time | Specifies the expiry time for the age of the UE's location information. During this time, if the EPS Location Information with current location is requested in the ISDR, the MME does not process a location procedure with the eNodeB, but sends the location information from the cache. |
| Mobile Reachable Timeout | Displays the timeout duration after which the reachability procedure will be discarded and a reattempt starts. This duration can be configured to any value between 1 and 20 seconds. By default it is 4 second. |
| T3396 Timeout | <p>Displays the timeout duration configured for the T3396 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes).</p> <p>If an ESM request is rejected because of congestion, the rejects shall have ESM cause #26: "Insufficient resources" and the MME will include the back-off timer IE (T3396). The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3396 timer value.</p> |
| T3485 Timeout | <p>Displays the timeout duration configured for the T3485 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer is used for default EPS bearer context activation procedure.</p> <p>This timer starts when the MME sends an ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives an ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT or ACTIVATE DEFAULT EPS BEARER CONTEXT REJECT message from the UE.</p> |
| T3486 Timeout | <p>Displays the timeout duration configured for the T3486 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the MME sends a MODIFY EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a MODIFY EPS BEARER CONTEXT ACCEPT or REJECT message from the UE.</p> |

| Field | Description |
|-----------------------------------|---|
| T3495 Timeout | <p>Displays the timeout duration configured for the T3495 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer is used for default EPS bearer context deactivation procedure.</p> <p>This timer starts when the MME sends a DEACTIVATE EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a DEACTIVATE EPS BEARER CONTEXT ACCEPT or DEACTIVATE EPS BEARER CONTEXT REJECT message from the UE.</p> |
| T3489 Timeout | <p>Displays the timeout duration configured for the T3489 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second.</p> <p>This timer starts when the MME sends an ESM INFORMATION REQUEST message to the UE and stops when it receives an ESM INFORMATION RESPONSE message from the UE.</p> |
| TC1N Timeout | <p>Displays the timeout duration configured for the TC1N timer. This timer can be configured to any value between 1 and 20 seconds. By default, it is 5 seconds.</p> |
| TR1N Timeout | <p>Displays the timeout duration configured for the TR1N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.</p> |
| TR2N Timeout | <p>Displays the timeout duration configured for the TR2N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.</p> |
| MT Queue Timeout | <p>Displays the timeout duration configured for the MT Queue timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.</p> |
| CP Data Max Retransmissions Count | <p>Displays the number of times CP Data for SMS is retransmitted.</p> |
| HO Resource Release Timeout | <p>Displays the configuration of the ho-resource-release-timeout command.</p> <p>This is the amount of time in milliseconds that the MME will hold on to bearers and E-RABs after an S1-based handover has been initiated. When this timer expires, the source MME will send a UE Context Release to the source eNodeB. Refer to 3GPP TS 23.401 Section 5.5.1.2.2 for additional information about the use of this timer.</p> |

| Field | Description |
|-----------------------|--|
| Encryption Algorithms | <p>The encryption algorithm and its priority applied for security procedures through this MME service. It indicates following settings:</p> <ul style="list-style-type: none">• Priority: The priority set for applied encryption algorithm. The least value has the highest preference. Possible priority values are between 1 to 3.• Algorithm: The applied encryption algorithm. Possible algorithms are:<ul style="list-style-type: none">• 128-eea0: Null ciphering algorithm (128-EEA0) for LTE encryption as the encryption algorithm for security procedures. This is the default encryption algorithm applicable for security procedures.• 128-eea1: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption as the encryption algorithm for security procedures.• 128-eea2: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption as the encryption algorithm for security procedures.• 128-eea3: ZUC algorithm (128-EEA3) for LTE encryption as the encryption algorithm for security procedures. <p>By default, the 128-eea0 encryption algorithm is applicable.</p> |

| Field | Description |
|-------------------------|--|
| Integrity Algorithms | <p>The priority and the integrity algorithm applied for security procedures through the MME service. It indicates the following settings:</p> <ul style="list-style-type: none"> • Priority: The priority set for the applied integrity algorithm. The least value has the highest preference. Possible priority values are between 1 to 3. • Algorithm: The applied integrity algorithm. Possible algorithms are: <ul style="list-style-type: none"> • 128-eia0: Null ciphering algorithm (128-EIA0) for LTE integrity as the integrity algorithm for security procedures. • 128-eia1: SNOW 3G synchronous stream ciphering algorithm (128-EIA1) for LTE integrity as the integrity algorithm for security procedures. • 128-eia2: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2) for LTE encryption as the integrity algorithm for security procedures. This is the default encryption algorithm applicable for security procedures. • 128-eia3: ZUC algorithm (128-EIA3) for LTE integrity as the integrity algorithm for security procedures. |
| Setup Timeout | <p>The setup timeout duration configured for call setup for MME calls.</p> <p>Range: 1 to 10000.</p> <p>Default: 60 seconds</p> |
| UE DB Purge Timeout | <p>The configured timeout duration in minutes to purge UE record from UE database which is maintained by MME as cache of EPS context per UE keyed by IMSI/GUTI to allow UE to attach by GUTI and reuse previously established security parameters. This cache will be maintained in each session manager where the first attach occurred for an UE and purge after configured timeout period expires.</p> <p>Range: 1 to 20160.</p> <p>Default: 10080 mins</p> |
| Maximum paging attempts | <p>Indicates number of paging attempts configured in an MME service to send for an UE while in idle mode.</p> <p>Range: 1 to 10</p> <p>Default: 3</p> |

| Field | Description |
|---|--|
| Policy for Idle Mode Detach | <p>Displays the configured user policy in an MME service for detach procedure when a UE is in IDLE mode. Possible actions are:</p> <ul style="list-style-type: none"> • Explicit: Detach procedure starts after paging the UE • Implicit: Detach procedure starts without paging the UE <p>Default: Implicit detach</p> |
| NAS Max Retransmissions Count | <p>Displays the configured maximum number of retransmissions for each configured NAS message.</p> |
| Set UE Time (attach processing) | <p>Displays the configuration of the set-ue-time keyword in the policy attach command. Possible states are Enabled or Disabled.</p> <p>If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.</p> |
| Reject attach with non-3GPP char APN | <p>Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in Attach request.</p> |
| Reject pdn connect with non-3GPP char APN | <p>Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in PDN Connect request.</p> |
| IMEI Query (attach processing) | <p>Displays the mobile equipment identity query type for the UE related procedure configured in the attach policy in the MME service. Possible actions are:</p> <ul style="list-style-type: none"> • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. <p>Default: None</p> |
| EIR Query (attach processing) | <p>Displays the Equipment Identity Register query status in the attach policy configuration for the MME service. Possible states are Enabled or Disabled.</p> |
| Deny-greylisted (attach processing) | <p>Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the attach procedure. By default, this option is disabled; the MME will allow this call to go through.</p> <p>To enable this option, refer to the <code>verify-equipment-identity</code> function of the policy attach command.</p> |

| Field | Description |
|---------------------------------------|---|
| Deny-unknown (attach processing) | <p>Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will allow the call to go through.</p> <p>To enable this option, refer to the verify-equipment-identity function of the policy attach command.</p> |
| Allow-ECA timeout (attach processing) | <p>Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will deny this call.</p> <p>To enable this option, refer to the verify-equipment-identity function of the policy attach command.</p> |
| Verify Emergency (attach processing) | <p>Displays whether the MME will query the EIR for equipment status during Emergency attach processing. By default, this option is disabled.</p> <p>To enable this option, refer to the verify-equipment-identity function of the policy attach command.</p> |
| Set UE Time (TAU processing) | <p>Displays the configuration of the set-ue-time keyword in the policy tau command. Possible states are Enabled or Disabled.</p> <p>If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.</p> |
| IMEI Query (TAU processing) | <p>Displays the mobile equipment identity query type for the UE related procedure configured in the TAU policy in the MME service. Possible actions are:</p> <ul style="list-style-type: none"> • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. <p>Default: None</p> |
| EIR Query (TAU processing) | <p>Displays the Equipment Identity Register query status in the TAU policy configuration for the MME service. Possible states are Enabled or Disabled.</p> |

| Field | Description |
|---------------------------------------|--|
| Deny-greylisted (TAU processing) | <p>Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the TAU procedure. By default, this option is disabled; the MME will allow this call to go through.</p> <p>To enable this option, refer to the <code>verify-equipment-identity</code> function of the policy attach command.</p> |
| Deny-unknown (TAU processing) | <p>Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will allow the call to go through.</p> <p>To enable this option, refer to the <code>verify-equipment-identity</code> function of the policy attach command.</p> |
| Allow-ECA timeout (TAU processing) | <p>Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will deny this call.</p> <p>To enable this option, refer to the <code>verify-equipment-identity</code> function of the policy attach command.</p> |
| Verify Emergency (TAU processing) | <p>Displays whether the MME will query the EIR for equipment status during Emergency TAU processing. By default, this option is disabled.</p> <p>To enable this option, refer to the verify-equipment-identity option of the policy attach command.</p> |
| Initial Context Setup Failure- TAU | <p>Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a TAU request. By default, the MME moves the UE to IDLE MODE. The MME can optionally be configured to detach the UE when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>".</p> <p>To configure this setting, refer to the initial-context-setup-failure option of the policy tau command.</p> |
| Initial Context Setup Failure-Svc Req | <p>Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a service request or extended service request. By default, the MME detaches the UE. The MME can optionally be configured to move the UE to Idle Mode when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>".</p> <p>To configure this setting, refer to the initial-context-setup-failure option of the policy tau command.</p> |

| Field | Description |
|--|--|
| PDN reconnect type | Displays the PDN reconnect type as configured for the MME service. Possible values are multiple, reject, or restart. |
| Newcall Policy | Indicates whether the policy to handle new call requests for busy-out conditions on MME service is configured or not. If configured, by default it will be set to reject the new calls during busy-out condition. |
| Policy Overload | The configured policy for system to act on any new session/call request when system is crossing the threshold limits of sessions/calls in an MME service. Possible actions are: <ul style="list-style-type: none"> • Drop: Drops the packets incoming with new session requests to avoid overload on MME node • Reject: Rejects the new session/call request and responds with a reject message when threshold for allowed call session is crossed on MME node |
| Location Reporting | Displays the configuration of the Location Reporting function for the service. Possible configurations are Enabled or Disabled. |
| CSG Change Notification | Displays the configuration of Closed Subscriber Group notification to the SGW/PGW for the service. Possible configurations are Enabled or Disabled. |
| Heuristic Paging | Displays the configuration of the Heuristic Paging function for the service. Possible configurations are Enabled or Disabled. |
| Heuristic Paging Map | Displays the paging-map that is associated with the MME service. |
| ISR Capability | Displays the configuration of the Idle mode Signaling Reduction (ISR) feature. Possible configurations are Enabled or Disabled. |
| Policy Sctp-Down | Displays the configuration of the SCTP-Down policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry. |
| Policy Inter-RAT Indirect Fwd Tunnels | Display whether indirect forwarding is allowed during 3G to 4G handovers. Possible states are Enabled or Disabled. This field shows the configuration of the policy inter-rat indirect-forwarding-tunnels command. |
| Policy Inter-RAT Ignore SGSN ContextID | Displays whether the MME to configured to ignore any Context-ID mismatch between HSS and HLR and to use the Context-ID from the HSS to override the Context-ID from the source SGSN. If this option is disabled (default), the MME will drop the PDN when there is a Context-ID mismatch. This field shows the configuration of the policy inter-rat ignore-sgsn-context-id command. |

| Field | Description |
|---------------------------------------|--|
| Policy Inter-RAT Select Topologic SGW | Displays whether the MME is configured to determine and select the topologically-closest S-GW to the P-GW for Gn/Gp handoff scenarios. This field shows the configuration of the policy inter-rat select-topologic-sgw command. |
| Policy S1-Reset | Displays the configuration of the S1-Reset policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry. |
| Overcharge Protection | Displays the configuration of the Overcharging Protection feature, either "Not configured" or, when enabled, the configured S1-AP cause code group name. |
| Relative Capacity | Displays the configuration of the Relative Capacity function for the service. This field displays a number between 0 and 255 representing the weight of the MME to the eNodeB for load balancing pools of MMEs. |
| Trap S1 Initial Establishment | Displays whether traps will be sent for every initial S1 connection between the MME and the eNodeB. Possible states are Enabled or Disabled. |
| Trap S1 Path Establishment | Displays whether a trap will be sent when the S1 Path is established. |
| ENodeB Cache Timeout | Shows the time in minutes the ENodeB information is cached after the ENodeB terminates a connection. |
| Subscriber Map | Displays the name of the subscriber map associated with the service. |
| Lte Emergency Profile | Displays the name of the lte emergency profile associated with the mme-service. In order to support LTE emergency services, an lte emergency profile must be configured under lte-policy and be associated with the mme-services. |
| Network (Across All RATs) | Displays the configuration of the Network policy function for the service. Possible configurations are Dual Addressing Supported or Dual Addressing Not Supported. |
| Inter-RAT Mapping RNCID to eNBID | Displays the configuration specifying how Inter-RAT Target RNC-ID fields are mapped to Target eNodeB-ID fields. Possible values are matype-default-includes-only-enb (default) and matype1-includes-enb-tai. |
| MME Manager Recovery | Displays the configuration of the MME Manager Recovery function for the service. Possible configurations are Reset S1 Peers or No Reset S1 Peers. |
| GTPv2 Piggybacking | Displays the configuration of the GTPv2 Piggybacking function for the service. Possible configurations are Enabled or Disabled. |

| Field | Description |
|--|--|
| Important The following fields are only available in 12.2 and earlier releases. | |
| MME Offloading | Specifies if MME offloading is enabled or disabled. |
| MME Init Release Timeout | The timeout for triggering the IDLE MODE ENTRY procedure with cause "Load balancing TAU required" for UEs that are ECM_CONNECTED. This field is only visible if MME offloading is enabled. |
| MME Paging Init Timeout | The timeout for triggering the PAGING procedure for UEs that are ECM_IDLE. After bringing the UE back to ECM_CONNECTED, the IDLE MODE ENTRY procedure is triggered with the cause "Load balancing TAU required". This field is only visible if MME offloading is enabled. |
| Important The previous fields are only available in 12.2 and earlier releases. | |
| S1 MME IP QOS DSCP | Displays the diffserv code point marking to be used for sending packets of a particular QoS class between the MME and eNodeB as configured in the MME service. |
| S1AP SCTP Parameters | |
| SCTP Param Template Associated | Displays the name of the SCTP Parameter Template associated with the service. |
| SCTP Param Timestamp | Displays the time when the SCTP Parameter Template was associated with the MME service. |
| SCTP Alpha | Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Beta | Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Checksum Type | Displays the SCTP checksum type as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are ADLER32 or CRC32. |
| SCTP Valid Cookie Lifetime | Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Max Assoc Retrans | Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |

| Field | Description |
|--------------------------------|--|
| SCTP Max Number of In Streams | Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Init Retransmissions | Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Max MTU | Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Max Number of Out Streams | Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Path Retransmissions | Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Min MTU | Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP RTO Initial | Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP RTO Max | Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP RTO Min | Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Sack Frequency | Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Sack Period | Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Start MTU | Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Heartbeat Status | Displays the SCTP heartbeat status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled. |

| Field | Description |
|--------------------------------|---|
| SCTP HeartBeat Timer | Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Bundle Status | Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled. |
| SCTP Bundle Timer | Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. |
| SCTP Alternate Accept Flag | Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled. |
| MSC | <p>Configuration of the SRVCC MSC Server for this MME service. This is the MSC server that the MME will use to interface with for the Sv interface.</p> <p>MSC selection using DNS will take precedence over locally configured MSCs. MSC address will be used only when DNS-based selection is not configured OR DNS selection fails.</p> |
| MSC Echo Parameters | <p>Indicates the MSC parameter value for the following:</p> <ul style="list-style-type: none"> • interval • retransmission timeout • max retransmissions • reconnect interval |
| NAS GMM QOS Mapped From | <p>Displays which QOS the MME uses in NAS GMM QoS IE and GTPv1 Context response messages when the subscriber comes to MME via a handover from a GN/GP SGSN.</p> <p>Possible options are "Native EPS QOS" (default) or "Gn/Gp Peer SGSN QOS". Refer to the MME Service configuration command nas gmm-qos-ie-mapping for more information.</p> |
| Condition Restricted zone code | <p>Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone.</p> <p>This field has been renamed to <i>Restricted Zone Code</i> in 15.0 and later releases.</p> |
| Condition Congestion | <p>Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition.</p> <p>This field has been renamed to <i>Congestion</i> in 15.0 and later releases.</p> |

| Field | Description |
|-----------------------------------|--|
| Condition Newcall policy restrict | Displays the emm-cause-code to be returned to the UE when the policy restricts new calls. This field has been renamed to <i>Newcall policy restrict</i> in 15.0 and later releases. |
| Restricted zone code | Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone during an EMM procedure. |
| Congestion | Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition during an EMM procedure. |
| Newcall policy restrict | Displays the emm-cause-code to be returned to the UE when the policy restricts new calls. |
| APN mismatch | Displays the emm-cause-code to be returned to the UE when the system has detected an APN mismatch condition during an EMM procedure. |
| VLR down | Displays the emm-cause-code to be returned to the UE when the system has detected a VLR down condition during an EMM procedure. |
| VLR unreachable | Displays the emm-cause-code to be returned to the UE when the system has detected a VLR unreachable condition during an EMM procedure. |
| Auth failure | Displays the emm-cause-code to be returned to the UE when an authentication failure occurs. |
| PEER NODE unknown | Displays the emm-cause-code to be returned to the UE when peer node resolution is not successful. |
| CTXT transfer fail SGSN | Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer SGSN occurs. |
| CTXT transfer fail MME | Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer MME occurs. |
| HSS unavailable | Displays the emm-cause-code to be returned to the UE when HSS resolution fails in the MME or the HSS does not respond in time. |
| SGW selection failure | Displays the emm-cause-code to be returned to the UE when a failure occurs during S-GW selection. |
| PGW selection failure | Displays the emm-cause-code to be returned to the UE when a failure occurs during P-GW selection. |
| GW unreachable Attach | Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM Attach procedure. |

| Field | Description |
|-------------------------------------|--|
| GW unreachable TAU | Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM TAU procedure. |
| NO bearers active | Displays the emm-cause-code to be returned to the UE when the context received from a peer SGSN (during a TAU procedure) does not contain any active PDP contexts |
| APN not supported PLMN-RAT esm-proc | Displays the configured cause code for APN not supported PLMN-RAT in esm-proc. |
| APN not supported PLMN-RAT Attach | Displays the configured cause code for APN not supported PLMN-RAT for attach requests. |
| APN not supported PLMN-RAT TAU | Displays the configured cause code for APN not supported PLMN-RAT for TAU requests. |
| S13-additional-id-check: | Displays the configuration for the S13 Additional IMEI check ID feature, which is disabled by default. The following fields the feature is configured to be performed during the listed UE procedure(s). |
| Attach: | Indicates if S13 Additional IMEI checking is to be performed during UE attaches. |
| TAU: | Indicates if S13 Additional IMEI checking is to be performed during tracking area updates. |
| Handover: | Indicates if S13 Additional IMEI checking is to be performed during UE handovers. |
| Extended DRX: | |
| H-SFN Start | Displays the start time at which H-SFN=0 starts in the GPS or UTC time format. The UTC time format is YYYY:MM:DD:hh:mm:ss . For example: 2016:03:01:12:34:56. |
| H-SFN UTC Reference | Displays the reference time at which H-SFN=0 starts in the UTC time format YYYY:MM:DD:hh:mm:ss . For example: 1982:1:1:1:1:1. |
| Adjusted time | Displays the number of leap seconds configured. |
| SGW Blacklist Parameters | Specifies the configured S-GW Blacklist parameters. |
| timeout | Specifies the period of time the blacklisted S-GW cannot be used for call procedures. The timeout value is an integer ranging from 5 to 86400 seconds. |
| msg-timeouts-per-min | Specifies the configured number of message timeouts to wait, before blacklisting an S-GW locally in a session manager instance. Only Create Session Response timeout is considered. The number of messages is an integer ranging from 1 to 5000. |

| Field | Description |
|------------------------|---|
| S1 UE Retention | |
| S1 UE Retention | |
| S1 UE Retention Timer | Specifies the timer value for retaining an SCTP association. |
| DDN Delay Value | Specifies the downlink-data-notification delay value in multiples of 50 milliseconds. |

show mme-service db record all

Displays the MME database records for all sessions.

Table 389: show mme-service db record imsi Command Output Descriptions

| Field | Description |
|------------------------------|--|
| DB Record State | Displays the current state of the db record: <ul style="list-style-type: none"> • (C) - Connected • (c) - Connecting • (D) - Detached |
| Integrity Algorithm | Displays the integrity algorithm applied for security procedures for this subscriber: <ul style="list-style-type: none"> • (S) - EIA1: SNOW 3G synchronous stream ciphering algorithm (128-EIA1). • (A) - EIA2: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2). • (N) - EIA0: No integrity protection. |
| Encryption Algorithms | Displays the encryption algorithm applied for security procedures for this subscriber. <ul style="list-style-type: none"> • (S) - EEA1: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption. • (A) - EEA2: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption. • (N) - EEA0: No encryption algorithm. |
| Call ID | The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call. |
| IMSI | The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key. |

| Field | Description |
|------------------|--|
| GUTI | The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: <ul style="list-style-type: none"> • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI) |
| REALLOCATED GUTI | This parameter displays the reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE. |

show mme-service db record imsi

Displays the MME database records for sessions grouped in session instances on this system and filtered by IMSI.

Table 390: show mme-service db record imsi Command Output Descriptions 0

| Field | Description |
|--------------------|--|
| Sessmgr Instance | The instance of the running Session Manager that serves this MME database. |
| MME Service | The name of the MME service associated with the database record. |
| Lookup Keys | This group displays the various lookup key information stored in MME database record for specific Session Manager instance. |
| IMSI | The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key. IMSI includes the Mobile Country Code (MCC) and Mobile Network Code (MNC). |
| Service-id | The system-generated service ID number. |
| GUTI | The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: <ul style="list-style-type: none"> • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI) |

| Field | Description |
|---|---|
| Call-ID | The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call. |
| Subscription Data | This group lists the subscription data available in database record for subscriber. |
| IMEI | The International Mobile Equipment Identity (IMEI) value stored for a subscriber in MME database record as subscription data of that subscriber. |
| MSISDN | The MSISDN value stored for a subscriber in MME database record as subscription data of that subscriber. |
| Context Identifier | Context-identifier sent by the HSS. This represents the default APN. |
| RFSP Index | Indicates the RAT/Frequency Selection Priority (RFSP) Index sent by the HSS and used to identify a specific Radio Resource Management (RRM) configuration. |
| Charging characteristic | Indicates the charging characteristics for this subscriber sent by the HSS, for example: normal, prepaid, flat rate. |
| APN OI Replacement | Indicates the domain name to replace the APN OI when constructing the PDN-GW FQDN upon which to perform DNS queries. This replacement applies for all the APNs in the subscriber's profile. |
| Oper Determined Barring | Indicates that the status of the operator determined barring. |
| ICS Indicator | The IMS Centralized Services indicator set in the ULA, either (0) false/disabled, or (1) true/enabled. |
| CSG IDs | A list of all CSG IDs from the subscription data. |
| Max Req Bandwidth UL | The maximum bandwidth requested for upload for this UE (UE_AMBR_UL). |
| Max Req Bandwidth DL | The maximum bandwidth requested for download for this UE (UE_AMBR_DL). |
| EMM backoff Expiry Time | Displays the configuration of the extended t3346 timer. |
| Subscribed Periodic RAU TAU Timer Value | Displays the configuration of the extended t3412 timer. |
| ARD: | The following fields display either 'True' or 'False' to indicate configured subscriber ARD values received from the HSS. |
| UTRAN-not-allowed | True or False |
| GERAN-not-allowed | True or False |

| Field | Description |
|-----------------------------------|--|
| GAN-not-allowed | True or False |
| I-HSPA-Evolution-not-allowed | True or False |
| E-UTRAN-not-allowed | True or False |
| HO-To-Non-3GPP-Access-not-allowed | True or False |
| Dual-connectivity-NR-not-allowed | Displays True or False to identify if the ARD received from HSS indicates the DCNR feature is allowed for the given IMSI or not. |
| Trace Data | This group displays trace data if it is provided as part of the UE subscription data from the HSS. For information about the trace data provided, refer to section 5 of 3GPP TS 32.422. |
| APN Config | This group displays the APN configuration data stored in MME database record. |
| Service Selection | The name of the APN selected. |
| Max Req Bandwidth UL | The maximum bandwidth requested for upload for this APN. |
| Max Req Bandwidth DL | The maximum bandwidth requested for download for this APN. |
| QoS Class Id | The QoS Class Identifier (QCI) configured for this APN. If the MME has not received the QCI from the HSS, "Not Available" will be displayed. |
| Priority level | The traffic priority level configured for this APN. |
| Context Identifier | The context identifier where APN is configured. |
| VPLMN Dynamic ADDR allowed | Indicates whether dynamic address is allowed for visiting PLMN or not. |
| 3GPP-Chrg Characteristics | The configured charging characteristics for this APN. |
| PDN-GW Name | The name of the P-GW where this APN is configured. |
| PDN-GW Realm | The realm of the P-GW which contains the configuration for this APN. |
| PDN-GW Address | The IP address of the P-GW which contains the configuration for this APN. |
| APN Restoration Priority | Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest. |

| Field | Description |
|--|--|
| UE Tracking Information: Last Reported 5 eNBs (most recent first) | The following information is reported per eNB: <ul style="list-style-type: none"> • IMSI • eNB • Last Reported ECI • Last Update |
| UE Tracking Information: Last Reported 7 ECGIs (most recent first) | The following information is reported per ECGI: <ul style="list-style-type: none"> • Last Reported ECI • eNB • IMSI • Last Update |
| HSS-DB Data | This group displays HSS Database data information. |
| HSS Update Type | Displays the update type the MME must respond to when the HSS makes a request for UE reachability when the UE moves from idle-mode to connected mode. Possible update types are: <ul style="list-style-type: none"> • Notify Request: Specifies that the HSS will send the MME a Notify Request message and expect a Notify Response message in return. • Update Location Request: Specifies that the HSS will send a Cancel Location Request or a Reset Request message and expect an Update Location Request message in return. Cancel Location Request and Reset Request have a higher precedence than Notify Request, hence an Update Location Request is sent if a Cancel Location Request or Reset Request is received after a Notify Request, and a Notify Response is not sent. |
| ESMLC Location Estimate | This group shows information about the last known location of the UE that was derived using the E-SMLC. Refer to 3GPP TS 29.171 for more details about the information provided. |
| Location | Provides the Geographic Area information reported for this UE. Type: The Geographic Area Description (GAD) reported. Co-ordinates: Displays the geographical coordinates of the UE. |
| Positioning Data | This group displays information about the positioning estimates reported for this UE. |

| Field | Description |
|------------------------------|---|
| Positioning Data Set | <p>Displays the following location estimate information for the UE:</p> <p>Type: Reserved, Reserved-n/w specific methods, Reserved-other technologies, CellId, E-CID, OTDOA, or U-TDOA.</p> <p>Result: Displays whether the positioning method was attempted successfully or unsuccessfully.</p> <p>Used for computation: Yes or No.</p> |
| GNSS Positioning | <p>Displays the following location estimate information provided by the Global Navigation Satellite System (GNSS):</p> <p>Method: Displays the positioning method used, such as Conventional, UE-Assisted, or UE-Based, or Reserved.</p> <p>Type: For example: Galileo, GLONASS, GPS, QZSS, Modernized GPS, SBAS, or Reserved.</p> <p>Result: Displays whether the positioning method was attempted successfully or unsuccessfully.</p> <p>Used: Displays whether the information reported was used: Yes, No, Multiple methods used, Cannot be determined, or Used to verify, but not to generate location.</p> |
| Velocity Estimate | <p>Horizontal: The reported Bearing and Velocity in kilometers per hour.</p> <p>Vertical: The reported Speed and Direction of travel (upward or downward).</p> |
| Horizontal Uncertainty Speed | The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified. |
| Vertical Uncertainty Speed | The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified. |
| Requested Accuracy Fulfilled | Indicates if the requested accuracy is fulfilled, either Yes or No. |
| REALLOCATED GUTI | This group displays reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE. |
| PLMN | Value of PLMN within the GUTI. |
| MME Group ID | Value of MME Group Id within the GUTI. |
| MME Code | Value MME Code within the GUTI. |
| M-TMSI | Value MTMSI within the GUTI. |
| GUTI Allocated time | Last GUTI allocated timestamp. This refers to reallocated GUTI time stamp if the Reallocated GUTI is being displayed. |

show mme-service db statistics

Table 391: show mme-service db statistics Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Total DB record allocated | The total number of database records allocated to MME calls/UE. |
| Total DB record reactivated | The total number of database records for reactivated MME sessions. |
| Total DB record detached | The total number of database records for detached MME sessions. |
| Total DB record purged | The total number of database records for purged MME sessions. |
| Purge Type | This group The database record statistics for purged session of various types. |
| Timeout | The total number of sessions purged due to Timeout reason. |
| DB record limit reached | The total number of sessions purged due to database record limit crossed. |
| UE not connected | The total number of sessions purged as UE was not connected. |
| HSS initiated | The total number of sessions purged where purging was initiated by HSS. |
| IMSImgr initiated | The total number of sessions purged where purging was initiated by IMSI manager. |
| Others | The total number of sessions purged where purging was happened due to reasons other than listed in this table. |
| Current DB record count | The total record count in database including all states. |
| State Connecting | The total record count in database in connecting state. |
| State Connected | The total record count in database in connected state. |
| State Detached | The total record count in database in detached state. |

show mme-service enodeb-association full



Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 392: show mme-service enodeb-association full Command Output Descriptions

| Field | Description |
|----------------------|--|
| MMEMgr | The instance number MME Manager for which the information are displayed here. |
| Peerid | The identifier of peer MME of which statistic are displayed. |
| Global ENodeB ID | The global eNodeB identifier which is associated with this peer node. |
| Assoc Uptime | The uptime of the association between the MME and the eNodeB. The format is 0000d00h00m (where d= day, h=hour, m=minutes) when h > =24 hrs, otherwise it will be displayed as 00h00m00s. |
| eNodeB Name | The eNodeB name as reported by the eNodeB. |
| eNodeB Type | The NodeB type, either Home or Macro, as reported by the eNodeB. (HeNB-GW) is listed if this is a Home eNodeB Gateway. |
| MME Service Name | The name of the MME service running on peer node. |
| MME Service Address | The IP address which is used by MME service to connect with eNodeB. |
| MME Service Port | The port number which is used by MME service to connect with eNodeB. |
| eNodeB Port | The port number of eNodeB which is used by eNodeb to associate with MME service. |
| eNodeB IP Address(s) | The IP address of eNodeB which is used by eNodeb to associate with MME service. |
| Crypto-map Name | The name of the crypto map supporting this EnodeB association. |
| Paging DRX | The paging discontinuous reception set for paging procedure between eNodeB and MME. |
| Supported TAI(s) | The id of supported Tracking Area Identifier of which this eNodeB and MME belongs too. The Tracking Area Identity is constructed from the MCC (Mobile Country Code), MNC (Mobile Network Code) and TAC (Tracking Area Code). |

| Field | Description |
|-----------------------------|---|
| CSG ID(s) | <p>The closed subscriber groups Ids supported per eNodeB association with an MME service.</p> <p>A Closed Subscriber Group is a collection of cells within an eUTRAN and UTRAN that are open to only a certain group of subscribers.</p> <p>Within a PLMN, a Closed Subscriber Group is identified by a Closed Subscriber Group Identity (CSG-ID). The CSG ID shall be fix length 27 bit value.</p> |
| S1 Paging Rate Limit | The S1 paging rate limit for the eNodeB as configured using the network-overload-protection mme-tx-msg-rate-control enb s1-paging command. |
| Path Source IP Address | The local MME address to establish the path towards VLR. In case of multiple addresses, the addresses will be shown as separated by space character. |
| Path Destination IP Address | The VLR (peer) address in the association. In case of multiple addresses, the addresses will be shown as separated by space character. |
| Path State | The state of the path (Up/Down) based on Heartbeat exchanged over the path. |
| Flow Id | The flow Id assigned by NPU manager to the path over which the packet will reach the MME manager. This flow ID will be in the range of Flow space created for specific application. |

show mme-service id summary

This command displays the current number of MME-assigned and eNodeB-assigned S1AP session IDs.

Table 393: show mme-service id summary 1

| Field | Description |
|--------------------|---|
| Total MME S1AP IDs | The number of MME-assigned session identifiers between the MME and the eNodeB on the S1AP interface. |
| Total eNB S1AP IDs | The number of eNodeB-assigned session identifiers between the eNodeB and the MME on the S1AP interface. |

```
show mme-service msc-status [ mme-service-name name | msc-name name ]
```

show mme-service msc-status [mme-service-name *name* | msc-name *name*]

Table 394: show mme-service msc-status [mme-service-name name | msc-name name] Command Output Descriptions

| Field | Description |
|------------------|---|
| MSC Status | Indicates the status of the MSC. |
| Name | Indicates the name of the configured MSC. |
| IP | Indicates the IP address of the MSC. |
| Node Status | Indicates the node status of the MSC. |
| Path State | Indicates the path state of the MSC. |
| MME service name | Indicates the MME service name of the MSC. |
| Static/DNS IP | Indicates if the MSC has a static IP address or a DNS IP address. |

show mme-service name <mme_svc_name>

Displays service and session state information for all sessions currently on the system.

Table 395: show mme-service name <mme_svc_name> Command Output Descriptions

| Field | Description |
|-------------------|--|
| Service name | The name of the MME service configured and running on the system. |
| Context | The name of the VPN context in which MME service configured and running on the system. |
| Status | Indicates whether MME service is started or not. |
| Access Policy | Displays the configured access-policy name. If access-policy is not associated with mme-service, this field displays "Not Defined". |
| Cell Tracing | Indicates whether realtime cell tracing is enabled or disabled. |
| Trace Extension | Indicates whether cell trace extension is enabled or disabled. |
| Non-Broadcast TAI | Displays the configured values for MCC, MNC, and TAC. |
| DCNR | Indicates whether the DCNR feature is enabled or disabled at MME service. |

| Field | Description |
|-----------------|--|
| UE Usage Type | Configures UE usage type for disconnecting PDN for up service area |
| Co-located Node | Configures the collocated node name to select the collocated SPGW node IP addresses. |

show mme-service name <mme_svc_name> offload statistics

This section provides information regarding show commands and/or their outputs in support of load rebalancing (UE offload).

Table 396: show mme-service name <mme_svc_name> offload statistics 2

| Field | Description |
|--|---|
| Current Offload Status | Current offload status of the specified mme-service. Possible values are Not Started, In Progress and Completed. |
| Implicit Detach Status | The Implicit Detach Status specified in the mme offload command. When enabled, if the UE context is not transferred to another MME within 5 minutes then it will be implicitly detached. |
| Preserve VoLTE subscribers Status | Is displayed as “Enabled” when the keyword preserve-volte-subscribers is configured in the mme offload command. The status is displayed as “Disabled”, when VoLTE preservation is not configured. By default VoLTE preservation is disabled. |
| Time Duration Requested | The time-duration value specified in the mme offload command (in seconds). This is the maximum allowed time for the offload procedure to complete. |
| Percentage of Subscribers Requested | The offload-percentage specified in the mme offload command (specified as a percentage of all UEs on this mme-service). |
| Total Number of Subscribers | The total number of UEs on the specified mme-service. |
| Total Number of Subscribers Marked for Offloading | Displays the total number of subscribers marked for offloading during the current MME offload. |
| Total Number of Subscribers to be Offloaded | Total number of UEs on the specified mme-service selected for offloading. |
| Total Cumulative Number of Subscribers Offloaded | Displays the cumulative count of subscribers offloaded. |
| Total Number of VoLTE Subscribers Preserved | Displays the number of preserved VoLTE subscribers during and after MME offload. |
| Total Cumulative Number of VoLTE Subscribers Preserved | Displays the total numbers of subscribers preserved before starting the offload timer when the mme offload command is executed. |

| Field | Description |
|---|--|
| Total Number of Subscribers Offloaded | The total number of UEs which have been successfully offloaded from this mme-service (UE offloading State/Event = Done). |
| Total Number of Subscribers Received Context Transfer | Total number of UEs which has been successfully context transferred to another MME. |
| Remaining Time | The number of seconds remaining to complete the offload procedure. |

show mme-service session all

Displays service and session state information for all sessions currently on the system.

Table 397: show mme-service session all Command Output Descriptions

| Field | Description |
|------------------------|---|
| Attach Type | Display the attach type that the subscriber is using. The possible access types are: <ul style="list-style-type: none"> • A: Initial EPS • B: Combined EPS IMSI • C: Handover EPS • D: Combined Handover EPS IMSI |
| Security Status | Displays the security status of the session. The possible call states are: <ul style="list-style-type: none"> • A: No Integrity Check, No Cipherring • B: Integrity Check, No Cipherring • C: Integrity Check, Cipherring |
| ESM State | Displays the ESM state of the session. The possible call states are: <ul style="list-style-type: none"> • C: Connected • I: Idle |
| IKEv2/IPSec | Displays if IPSec is used during the session. |
| CALLID | The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service. |
| MSID | Displays the EPS subscriber's mobile station identification (MSID) number. |

| Field | Description |
|-------------|--|
| Num PDNs | Displays the total number of PDNs connected for a UE in this session. |
| Num Bearers | Displays the total number of bearers activated for a UE in this session. |

show mme-service session counters

Table 398: show mme-service session counters Command Output Descriptions

| Field | Description |
|------------------------------------|--|
| Username | Displays the EPS subscriber's username. |
| Callid | The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service. |
| MSID | Displays the EPS subscriber's mobile station identification (MSID) number. |
| EMM Events | This group displays the statistics of all Evolved Mobility Management (EMM) events associated with all MME services on the system. |
| Authentications | This group displays the all EMM authentication attempts/successes/failures with EMM events associated with all MME services on the system. |
| Attempted | The total number of EMM authentication attempts made for all MME services on the system. |
| Success | The total number of successful EMM authentication attempts for all MME services on the system. |
| Failures | The total number of failed EMM authentication attempts for all MME services on the system. |
| Tracking Area Update Events | This group displays the all tracking area update (TAU) event attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of EMM TAU attempts made for all MME services on the system. |
| Success | The total number of successful EMM TAU attempts for all MME services on the system. |
| Failures | The total number of failed EMM TAU attempts for all MME services on the system. |

| Field | Description |
|--|--|
| ECM Events | This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system. |
| Idle Mode Entry Events | This group displays the all idle mode entry event attempts/successes/failures associated with all MME services on the system. |
| Service Request Events | This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. Important In Release 14.0 and later, this group of counters is deprecated and replaced by the UE Requested Service Request Events and NW Initiated Service Request Events groups. |
| UE Requested Service Request Events | This group displays the ECM service request event attempts/successes/failures which have been requested by the UE for all MME services on the system. |
| NW Initiated Service Request Events | This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system. |
| Paging Initiation Events | This group displays the all paging initiation event attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for specific ECM event associated with all MME services on the system. |
| Success | The total number of successful attempts for specific ECM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for specific ECM event associated with all MME services on the system. |
| ESM Events | This group displays the statistics of all EPS Session Management (ESM) events associated with all MME services on the system. |
| PDN Connections | This group displays the all statistics for PDN connection attempts/successes/failures associated with all MME services on the system. |
| PDN Disconnections | This group displays the all statistics for PDN disconnection attempts/successes/failures associated with all MME services on the system. |
| Default Bearer Activation | This group displays the all statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system. |

| Field | Description |
|--|---|
| NW Initiated Dedicated Bearer Activation | This group displays the all statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Dedicated Bearer Activations | This group displays the all statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated Bearer Deactivations | This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| MME Initiated Bearer Deactivations | This group displays the all statistics of all MME-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Bearer Deactivations | This group displays the all statistics of all UE-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated Bearer Modifications | This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system. |
| HSS Initiated Bearer Modifications | This group displays the all statistics of all HSS-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Bearer Modifications | This group displays the all statistics of all UE-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for specific ESM event associated with all MME services on the system. |
| Success | The total number of successful attempts for specific ESM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for specific ESM event associated with all MME services on the system. |
| Handover Events | This group displays the statistics of all handover events associated with all MME services on the system. |
| X2-based handovers | This group displays the all X2-based (intra-MME) handover attempt/success/failure events associated with all MME services on the system. |
| S1-based handovers | This group displays the all S1-based (Inter-MME) handover attempt/success/failure events associated with all MME services on the system. |

| Field | Description |
|-----------------------------------|--|
| Attempted | The total number of attempts made for specific EPS handover event associated with all MME services on the system. |
| Success | The total number of successful attempts for specific EPS handover event associated with all MME services on the system. |
| Failures | The total number of attempts failed for specific EPS handover event associated with all MME services on the system. |
| Total NAS Control Messages | This group displays the statistics of all NAS control messages sent or received by an MME services on the system. |
| Sent | This sub-group displays the statistics of all NAS control messages sent by an MME services on the system. |
| Clear-text messages | The total number of NAS control messages with "clear-text" flag received by all MME services on the system. |
| Integrity-check enabled | The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system. |
| Ciphered messages | The total number of NAS control messages with "Ciphered" flag received by all MME services on the system. |
| Retransmissions sent | The total number of NAS control messages with "retransmission-sent" flag sent by all MME services on the system. |
| Failures | The total number of NAS control messages with "failure" flag sent by all MME services on the system. |
| Received | This sub-group displays the statistics of all NAS control messages received by an MME services on the system. |
| Clear-text messages | The total number of NAS control messages with "clear-text" flag received by all MME services on the system. |
| Integrity-check enabled | The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system. |
| Ciphered messages | The total number of NAS control messages with "Ciphered" flag received by all MME services on the system. |
| Accepted | The total number of NAS control messages received with "Accepted" flag by all MME services on the system. |
| Discarded | The total number of NAS control messages received with "Discarded" flag by all MME services on the system. |
| Denied | The total number of NAS control messages received with "Denied" flag by all MME services on the system. |
| Decode failures | The total number of NAS control messages received with "Decode failure" flag by all MME services on the system. |

show mme-service session full

Table 399: show mme-service session full Command Output Descriptions

| Field | Description |
|------------------|--|
| SessMgr Instance | The Session Manager instance managing this session. |
| MSID | The UE identity (MS Identity) of connected subscriber to an MME service, and whether the subscriber is unauthenticated (such as during emergency attach). |
| Callid | The call identity in 8 digit hex number of connected call to an MME service. |
| MME Service | The name of the serving MME service of which information is displayed. |
| MME HSS Service | The name of the serving MME-HSS service which is used for AAA for this subscriber with HSS on S6a interface. |
| EGTP S11 Service | The name of the serving eGTP service which is used for connectivity between MME and S-GW on S11 interface. |
| MME S1 Address | The IP address of MME used for connecting with eNodeB on S1-MME interface. |
| EGTP S11 Address | The IP address assigned to eGTP service which is used for connectivity between MME and S-GW on S11 interface. |
| ME Identity | The mobile equipment identity of connected UE. |
| GUTI | The Globally Unique Temporary Identifier (GUTI) used for this subscriber session. GUTI is constructed with following identifiers: <ul style="list-style-type: none"> • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI) |
| MSISDN | The Mobile Station International ISDN Number (MSISDN) of connected EPS subscriber to an MME service. |
| EMM State | The status of EPS Mobility Management (EMM) session of connected subscriber. Possible status are: <ul style="list-style-type: none"> • Registered • Connected |

| Field | Description |
|----------------------------------|--|
| ECM State | The status of EPS Connection Management (ECM) session of connected subscriber. Possible status are: <ul style="list-style-type: none"> • Registered • Connected • Idle |
| Attach type | Indicate the type of UE attachment of active subscriber to MME service, for example: Emergency or Initial EPS. |
| Active SGW S11 Addr | The IP address of S-GW connected to MME on S11 interface. |
| SGW Control TEID | Displays the TEID of the S-GW currently serving the UE. |
| UE Offloading | Displays the UE offload state for load rebalancing. Possible values are None, Marked, In-Progress and Done. |
| UE Reachability Timer | The configured value of the mobile reachability timer set for tracking UE in EMM session. |
| Remaining Time | The remaining time in seconds out of the configured value of the mobile reachability timer in the EMM session. |
| Paging Proceed Flag (PPF) | The current state of the Paging Proceed Flag indicating whether or not the UE is sending periodic TAUs within the span of the mobile reachability timer. If the UE fails to send a TAU within the timer value, this flag is set to "Paging Disabled" indicating that the MME is no longer paging the UE. |
| ISR Status | Displays if the session is using Idle mode Signaling Reduction (ISR). Possible configurations are Activated or Not activated. |
| Low Access Priority Indication | Displays whether this session has LAPI indicator in any of attach/extended service/TAU/bearer resource allocation/bearer resource modification/PDN connectivity requests. |
| Initial UE establishment cause | Displays the establishment cause as set in the Initial UE message: Delay Tolerant Access / High Priority Access / Emergency / MT-Access / Unknown |
| Peer SGSN | Displays the IP address of the SGSN which has a context for this UE in support of Idle mode Signaling Reduction (ISR). A Peer SGSN address is only shown when ISR is activated for this session. |
| UE Capability Information | This group shows the UE Capability information for connected UE received by an MME service. |
| Radio Capability | The radio capability information received by an MME service for connected UE in UE capability exchange message. |

| Field | Description |
|----------------------------------|--|
| Radio Capability for Paging | The radio capability information received by an MME service for paging the UE. This field displays the value in hexadecimal format if the UE receives "UE Radio Capability for Paging" IE in S1 "UE-CAPABILITY-INFO-INDICATION" message from eNB. Otherwise, this field displays N/A. |
| Supported Codec List | The Supported Codec List information received by an MME service for connected UE in UE capability exchange message. |
| Mobile Station Classmark 2 | The Mobile Station Classmark 2 information received by an MME service for connected UE in UE capability exchange message. |
| Mobile Station Classmark 3 | The Mobile Station Classmark 3 information received by an MME service for connected UE in UE capability exchange message. |
| Security Mode Information | This group shows the status of NAS integrity check and NAS ciphering along with applicable algorithm as security mode information. It contains following information: <ul style="list-style-type: none"> • NAS Integrity Check • NAS Integrity Check Algorithm • NAS Ciphering • NAS Ciphering Algorithm |
| Active ENodeB information | This group shows the information of active eNodeB serving to this session. |
| Global ENodeB ID | The global identifier of active eNodeB serving to this session. |
| S1AP End Point | The IP address used by eNodeB on S1AP interface to connect with MME service. |
| Crypto-map Name | The name of the crypto map supporting this ENodeB association. |
| MME UE S1AP ID | Indicates the session identifier between MME and UE on S1AP interface serving to this session. |
| ENodeB UE S1AP ID | Indicates the session identifier between eNodeB and UE on S1AP interface serving to this session. |
| MME UE S1AP ID (stack): | Indicates up to three MME UE S1AP session identifiers present in this S1AP stack. |
| ENodeB UE S1AP ID (stack): | Indicates up to three eNodeB UE S1AP session identifiers present in this S1AP stack. |
| Total S1AP ID (stack) | Indicates the total count of S1AP session identifiers present in the stack. |

| Field | Description |
|-----------------------------------|---|
| Idle Mode Information Data | This group shows the information for the sessions in ECM idle mode. |
| Last TAI | Tracking Area Identity of the last Tracking Area visited by UE. |
| Last ECGI | E-UTRAN Cell Global Identifier of the last Cell visited by UE. |
| Last Connected ENodeB | Displays information about the ENodeB to which the session was last connected. <ul style="list-style-type: none"> • Global ENodeB ID: Global ENodeB Identifier of the ENodeB to which the UE last connected. • SIAP End Point: End Point IP Address of the ENodeB to which the UE last connected. |
| UE Subscription Data | This group shows the subscribed aggregate maximum bit rate applicable for connected UE in this session. |
| UE-UL-AMBR | The subscribed aggregate maximum bit rate in bits per second in upload traffic for connected UE in this session. |
| UE-DL-AMBR | The subscribed aggregate maximum bit rate in bits per second in download traffic for connected UE in this session. |
| Enforced UE-UL-AMBR at eNodeB | The enforced aggregate maximum bit rate in bits per second in upload traffic for connected UE at eNodeB in this session. |
| Enforced UE-DL-AMBR at eNodeB | The enforced aggregate maximum bit rate in bits per second in download traffic for connected UE at eNodeB in this session. |
| PDN Information | This group shows the information of PDNs connected for this session. |
| APN Name | The APN name which is serving for this PDN in this session. |
| UE Requested APN | Displays the UE requested APN with non-standard characters in hexadecimal format and standard characters in normal string format. |
| APN Restriction | The total number of APN restriction applied to this PDN. |
| PDN Type | The type of PDN (IPv4 and/or IPv6) which is serving in this session for PDN. |
| PGW Address | The IP address of the P-GW which is serving this session for connected PDN. |
| PGW control TEID | The control tunnel end identifier at P-GW on S5/S8 interface for control messaging serving to this session. |
| UE IPv4 Address | The IP address allocated to UE while connected to PDN in this session. |

| Field | Description |
|--|--|
| APN-UL-AMBR | The applicable aggregate maximum bit rate in bits per second in upload traffic for APN serving this PDN. |
| APN-DL-AMBR | The applicable aggregate maximum bit rate in bits per second in download traffic for APN serving this PDN. |
| Bearer Suspension State | The current suspension state of the bearer. |
| CSG Cell Change Notification | Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a closed CSG cell. |
| CSG Subscribed Hybrid Cell Change Notification | Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell as a subscribed member of the CSG in question. |
| CSG Unsubscribed Hybrid Cell Change Notification | Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell with unsubscribed (non-member) status of the CSG in question |
| Marked for Deletion | Displays whether the PDN has marked for deletion flag set. |
| APN Restoration Priority | Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest. |
| Low Access Priority Indication | Displays whether this PDN has LAPI indicator set as received in PDN connectivity requests. |
| Bearer Id | The identifier used for bearer between eNodeB and S-GW while connected to PDN in this session. |
| QCI | The quality class identifier applicable for this MME session. |
| AMBR | The applicable aggregate maximum bit rate in bits per second in download/upload direction for APN serving this PDN. |
| S1U ENodeB TEID | Indicate the tunnel end identifier at eNodeB on S1-U interface serving to this session. |
| S1U SGW TEID | Indicate the tunnel end identifier at S-GW on S1-U interface serving to this session. |
| S5S8 PGW TEID | Indicate the tunnel end identifier at P-GW on S5/S8 interface serving to this session. |
| S1U ENodeB IPv4 Addr | Indicate the IPv4 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session. |
| S1U ENodeB IPv6 Addr | Indicate the IPv6 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session. |

| Field | Description |
|----------------------------------|--|
| S1U SGW IPv4 Addr | Indicate the IPv4 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session. |
| S1U SGW IPv6 Addr | Indicate the IPv6 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session. |
| S5S8 PGW Addr | Indicate the IP address used at P-GW while connecting to S-GW on S5/S8 interface serving to this session. |
| ESM State | The EPS session Management status serving to this session. |
| Bearer Type | The type of bearer used for this session. Possible values are: <ul style="list-style-type: none"> • Default • Dedicated |
| ARP | The Allocation Retention Priority value assigned to the bearer. The HSS assigns the value for default bearers and the P-GW assigns it for dedicated bearers. |
| PCI | Specifies the ARP Pre-emption Capability Indicator, either Enabled or Disabled. |
| PVI | Specifies the ARP Pre-emption Vulnerability Indicator, either Enabled or Disabled. |
| Marked for Deletion | Displays whether the bearer has marked for deletion flag set. |
| Total PDNs | The total number of PDNs connected through this session for a subscriber. |
| Total Bearers | The total number of bearers created for UE to use in this session. |
| Max APN Restrictions | The maximum number of APN restrictions applied to this PDN. |
| Tracking Area Information | This group displays the tracking area information available for this session. |
| TAI of last TAU | The tracking area identifier used in last Tracking Area Update (TAU) message received for TAU procedure in this session. |
| Current Tracking Area List | The tracking area list used for TAU procedure in this session. |
| CSG Information | This group displays Closed Subscriber Group information relating to this session. |
| CSG ID at Last Connection | Displays the CSG ID for this session. This is a unique identifier within the scope of PLMN which identifies a Closed Subscriber Group (CSG) in the PLMN. |
| CSG Cell Type | Displays the Closed Subscriber Group cell access mode (type) for this session, either Closed or Hybrid. |

| Field | Description |
|-----------------------------|---|
| CSG Membership Status | Displays if the session is a member of the cell's CSG. Possible values are Member or Non-Member. |
| Operator Policy Association | The operator policy associated with this PDN. |
| CSFB Information | This group displays the Circuit-Switched Fall Back configuration associated with the session. |
| SGS Assoc State | The state of the SGs association with the VLR for the UE as determined by the MME. Possible states are: <ul style="list-style-type: none"> • SGS-NULL: Specifies that there is no SGs association with the VLR for the UE. In this state, no fields in this group will display information. • LA_UPDATE_REQUESTED: Specifies that the MME has requested an update location from the VLR before sending a response to the UE • SGS-ASSOCIATED: Specifies that the MME has stored an SGs association for the UE. |
| SGS Service | The name of the configured SGs service associated with the session. |
| VLR | The name of the VLR, as configured in the SGs service, associated with the session. |
| LAI | The Location Area Identifier to which the UE is mapped. |
| Pool Area | The name of the configured Location Area Code (LAC) pool area associated with the SGs service and the session. |
| P-TMSI | The Packet-Temporary Mobile Subscriber Identifier allocated by the MSC for the UE. |
| Flags | The current active variables associated with the UE. Possible states are: <ul style="list-style-type: none"> • SMS-Only: Specifies that the UE is combined attached for SMS services only. • MME Reset Indicator: Specifies that the MME has restarted after a failure. • VLR Reliable Indicator: Specifies that the MME has received a reset indication from the VLR. • VLR Offload: Specifies that the UE is set to offload state. • Non-EPS Alert: Specifies that the VLR is requesting from the MME an indication when any signaling activity from the UE is detected. |

| Field | Description |
|--------------------------------------|---|
| CIoT Optimisation Information | Displays the CIoT optimization information. |
| NB-IoT RAT | Displays if the RAT type NB-IoT is either enabled or disabled. |
| Attach Without PDN Support | Displays if attach without PDN support is either enabled or disabled. |
| UE capable of operating in CE-mode-B | Displays "TRUE" or "FALSE" to indicate if UE is operating in CE Mode-B. |
| Access Profile Association | Displays the configured access-profile name. |
| DECOR Information: | |
| UE Usage type | Displays the configured UE usage types. |
| DCN Id | Displays the configured DCN identifier. |
| UE DC-NR Information: | |
| DC-NR capable UE | Indicates whether the UE is DCNR capable. |
| DC-NR operation allowed | Indicates whether the DCNR operation is allowed by MME for the DCNR capable UE. |

show mme-service session summary

Table 400: show mme-service session summary Command Output Descriptions

| Field | Description |
|--------------------------|---|
| Total connected sessions | The total number of MME sessions in ECM-CONNECTED mode. |
| Total idle-mode sessions | The total number of MME sessions in ECM-IDLE mode. |
| Total attached sessions | The total number of sessions attached to this MME. |
| Total LAPI sessions | The current number of sessions with LAPI indicator set. |
| Total connected PDNs | The total number of PDNs associated with UEs in ECM-CONNECTED mode. |
| Total idle-mode PDNs | The total number of PDNs associated with UEs in ECM-IDLE mode. |
| Total attached PDNs | The total number of PDNs present in this MME. |
| Total IPv4 PDNs | The total number of PDNs with IPv4 addresses. |
| Total IPv6 PDNs | The total number of PDNs with IPv6 addresses. |

| Field | Description |
|-------------------------------------|--|
| Total IPv4+IPv6 PDNs | The total number of PDNs with dual addressing. |
| Total connected dedicated bearers | The total number of dedicated bearers associated with UEs in ECM-CONNECTED mode. |
| Total idle-mode dedicated bearers | The total number of dedicated bearers associated with UEs in ECM-IDLE mode. |
| Total attached dedicated bearers | The total number of dedicated bearers present in this MME. |
| Total combined-attached subscribers | The total number of MME sessions which are both PS and CS attached. |
| Total EPS-only attached subscribers | The total number of MME sessions which are PS attached only. |
| Total ISR-activated sessions | The total number of MME sessions which are activated for ISR. |

show mme-service sgw-blacklist [mme-service-name] [smgr-instance]

Table 401: show mme-service sgw-blacklist [mme-service-name] [smgr-instance] Command Output Descriptions

| Field | Description |
|---------------------|---|
| Node Level | Specifies the number of Blacklisted SGWs at a Node Level. |
| Instance Level | Specifies the number of Blacklisted SGWs at a Node Level. |
| SGW IP | Specifies the IP Address of the Blacklisted SGW. |
| Blacklist Type | Specifies if the Blacklist Type is either Node level or Instance level. |
| Expiry Timestamp | Specifies the SGW blacklisting expiry time. |
| Blacklist Time left | Specifies the time left for SGW blacklisting. |

show mme-service statistics

Table 402: show mme-service statistics Output Descriptions

| Field | Description |
|-----------------|-------------|
| SCTP Statistics | |

| Field | Description |
|------------------------------|--|
| Transmitted SCTP Data | This sub-group displays the statistics of the total data processed and transmitted over Stream Control Transmission Protocol (SCTP) interface by this MME manager. |
| Init Chunks | The total SCTP packets with INIT transmitted over SCTP interface by this MME manager. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK transmitted over SCTP interface by this MME manager. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN transmitted over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this MME manager. |
| Cookie Chunks | The total SCTP packets with COOKIE transmitted over SCTP interface by this MME manager. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this MME manager. |
| Data Chunks | The total SCTP packets with DATA transmitted over SCTP interface by this MME manager. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK transmitted over SCTP interface by this MME manager. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this MME manager. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT transmitted over SCTP interface by this MME manager. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this MME manager. |
| Abort Chunks | The total SCTP packets with ABORT transmitted over SCTP interface by this MME manager. |
| Error Chunks | The total SCTP packets with ERROR transmitted over SCTP interface by this MME manager. |
| Received SCTP Data | This sub-group displays the statistics of the total data received over SCTP interface and processed by this MME manager. |
| Init Chunks | The total SCTP packets with INIT received over SCTP interface by this MME manager. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK received over SCTP interface by this MME manager. |

| Field | Description |
|--------------------------------|---|
| Shutdown Chunks | The total SCTP packets with SHUTDOWN received over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this MME manager. |
| Cookie Chunks | The total SCTP packets with COOKIE received over SCTP interface by this MME manager. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK received over SCTP interface by this MME manager. |
| Data Chunks | The total SCTP packets with DATA received over SCTP interface by this MME manager. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK received over SCTP interface by this MME manager. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this MME manager. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT received over SCTP interface by this MME manager. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this MME manager. |
| Abort Chunks | The total SCTP packets with ABORT received over SCTP interface by this MME manager. |
| Error Chunks | The total SCTP packets with ERROR received over SCTP interface by this MME manager. |
| Receive Window Adjusted | The number of times the SCTP stack adjusts the SCTP peer receive window size. |
| Retransmitted SCTP Data | This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this MME manager. |
| Init Chunks | The total SCTP packets with INIT retransmitted over SCTP interface by this MME manager. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this MME manager. |
| Cookie Chunks | The total SCTP packets with COOKIE retransmitted over SCTP interface by this MME manager. |
| Data Chunks | The total SCTP packets with DATA transmitted over SCTP interface by this MME manager. |

| Field | Description |
|------------------------------|---|
| Total Bytes Sent | The total bytes processed and sent over SCTP interface by this MME manager. |
| Total Bytes Received | The total bytes received over SCTP interface by this MME manager for processing. |
| Total Packets Sent | The total packets processed and sent over SCTP interface by this MME manager. |
| Total Packets Received | The total packets received over SCTP interface by this MME manager for processing. |
| TAI Statistics | |
| PDN type IPv4 only | Counter for PDN Connectivity Reject with cause 50. |
| PDN type IPv6 only | Counter for PDN Connectivity Reject with cause 51. |
| S1AP Statistics | |
| Transmitted S1AP Data | This sub-group displays the statistics of the total data processed and transmitted over S1 Application Protocol (S1AP) interface by this MME manager to eNodeB. |
| S1 Setup Resp | The total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| S1 Setup Fail | The total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Reset | The total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Reset Ack | The total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Overload Start | The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Overload Stop | The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| MME Dir Information Transfer | The total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |

| Field | Description |
|----------------------------------|---|
| Paging | The total number of PAGING messages for paging procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| eNB Config Update Ack | The total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| eNB Config Update Fail | The total number of ENB CONFIGURATION UPDATE FAILURE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| S1AP Msg Encode Fail | The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| E-RAB Setup Req | The total number of E-RAB setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| E-RAB Modify Req | The total number of E-RAB modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| E-RAB Release Command | The total number of E-RAB release request messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| E-RAB Bearer Setup Attempted | The total number of bearers for which E-RAB setup request message was sent. |
| E-RAB Bearer Setup Success Rate | The percentage of total number of E-RABs successfully setup at RAN, as perceived on MME from S1-AP messages |
| E-RAB Bearer Setup Failure Rate | The percentage of total number of E-RABs failed to setup at RAN, as perceived on MME from S1-AP messages |
| E-RAB Bearer Modify Attempted | The total number of bearers for which E-RAB modification request message was sent. |
| E-RAB Bearer Modify Success Rate | The percentage of total number of E-RABs successfully modified at RAN, as perceived on MME from S1-AP messages |
| E-RAB Bearer Modify Failure Rate | The percentage of total number of E-RABs failure to modified at RAN, as perceived on MME from S1-AP messages |
| E-RAB Modification Cfm | Indicates the number of E-RAB Modification Confirm messages sent by MME upon successful E-RAB modification procedure. |

| Field | Description |
|--------------------------|--|
| Initial Ctxt Setup Req | The total number of initial context setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| UE Ctxt Release Command | The total number of initial UE context release command messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| UE Context Modify Req | The total number of UE context modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Downlink NAS Transport | The total number of NAS Transport in downlink messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Error Ind | The total number of S1AP messages with error-indication processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Handover Command | The total number of S1AP messages with handover command processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Handover Prep Fail | The total number of S1AP messages generated for handover preparation failure procedure and transmitted over S1AP interface by this MME manager to eNodeB. |
| Handover Request | The total number of S1AP messages with handover request processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Handover Cancel Ack | The total number of HANDOVER_CANCEL_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Path Switch Request Ack | The total number of PATH_SWITCH_REQ_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Path Switch Request Fail | The total number of PATH_SWITCH_REQ_FAIL messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| Downlink S1 CDMA2000 | The total number of CDMA2000 request messages processed and transmitted over S1AP interface by S1 tunneling to interact with cdma2000 network in downlink direction by this MME manager to eNodeB. |
| Trace Start | The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace started for specific session by this MME manager to eNodeB. |

| Field | Description |
|-------------------------|---|
| Deactivate Trace | The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace deactivated for specific session by this MME manager to eNodeB. |
| MME Status Transfer | The total number of messages processed and transmitted over S1AP interface to indicate the MME status by this MME manager to eNodeB. |
| Loc Report Control | The total number of LOCATION REPORT CONTROL messages sent by the MME to the eNodeB requesting the current location of the UE. |
| MME Config Update | The total number of MME CONFIGURATION UPDATE messages sent by the MME to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface. |
| S1AP Encode Fail | The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| MME Config Transfer | The total number of MME CONFIGURATION TRANSFER messages sent by the MME to the eNodeB for the purpose of transferring RAN configuration information. |
| Paging Dropped | The total number of S1 Paging requests dropped for all MME services. This counter increments when an S1 paging request is dropped because the number of S1 paging requests received exceeded the S1 paging rate threshold as configured in the Global Config Mode command: network-overload-protection mme-tx-msg-rate-control enb s1-paging . |
| Downlink Non-UE LPPaTpt | The total number of non-UE downlink transport messages sent by the MME to the eNodeB for LPPa (LTE Positioning Protocol annex). |
| Downlink UE LPPaTpt | The total number of UE downlink transport messages sent by the MME to the eNodeB for LPPa. |
| Kill Request | The total number of CMAS Kill Request messages sent by the MME to the eNodeB. This message is forwarded by the MME to eNodeB to cancel an already ongoing broadcast of a warning message. |
| Write-Replace Warn Req | The total number of CMAS Write-Replace Warning Request messages sent by the MME to the eNodeB. This message is sent by the MME to request the start or overwrite of the broadcast of a warning message. |

| Field | Description |
|---------------------------|--|
| Received S1AP Data | This sub-group displays the statistics of the total data received over S1AP interface by this MME manager from eNodeB. |
| S1 Setup Req | The total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1AP interface by this MME manager from eNodeB. |
| Reset | The total number of S1 RESET messages for S1 reset procedure received over S1AP interface by this MME manager from eNodeB. |
| Reset Ack | The total number of S1 RESET-ACK messages for S1 reset procedure received over S1-P interface by this MME manager from eNodeB. |
| eNB Dir Info Transfer | The total number of ENB DIRECT INFORMATION TRANSFER messages for eNodeB Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| eNB Config Update | The total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB. |
| S1AP Msg Decode Failure | The total number of failure occurred during S1AP control message decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1AP interface by this MME manager from eNodeB. |
| S1AP Msg Unexpected | The total number of failure occurred due to unexpected events during S1AP control message procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1AP interface by this MME manager from eNodeB. |
| E-RAB Setup Resp | The total number of E-RAB setup request response messages received over S1AP interface by this MME manager from eNodeB. |
| E-RAB Modify Resp | The total number of E-RAB modify request response messages received over S1AP interface by this MME manager from eNodeB. |
| E-RAB Release Resp | The total number of E-RAB release request response messages received over S1AP interface by this MME manager from eNodeB. |
| E-RAB Release Ind | The total number of E-RAB release indicator messages received over S1AP interface by this MME manager from eNodeB. |
| E-RAB Mod Ind | Indicates the number of E-RAB Modification Indication messages received from the master eNodeB. |

| Field | Description |
|-------------------------|---|
| Initial Ctxt Setup Resp | The total number of initial context setup request response messages received over S1AP interface by this MME manager from eNodeB. |
| Initial Ctxt Setup Fail | The total number of initial UE context setup failure messages received over S1AP interface by this MME manager from eNodeB. |
| UE Contxt Release Req | The total number of initial UE context release command messages received over S1AP interface by this MME manager from eNodeB. |
| UE Ctxt Release Comp | The total number of UE context release request messages received over S1AP interface by this MME manager from eNodeB. |
| UE Context Modify Resp | The total number of UE context modify request messages received over S1AP interface by this MME manager from eNodeB. |
| UE Ctxt Modify Fail | The total number of UE context modify request failure messages received over S1AP interface by this MME manager from eNodeB. |
| Initial UE Message | The total number of initial UE messages received over S1AP interface by this MME manager from eNodeB. |
| Uplink NAS Transport | The total number of NAS Transport in Uplink direction messages received over S1AP interface by this MME manager from eNodeB. |
| NAS Non-Delivery Ind | The total number of S1AP messages for NAS non delivery indication received over S1AP interface by this MME manager from eNodeB. |
| Error Indication | The total number of S1AP messages with error-indication received over S1AP interface by this MME manager from eNodeB. |
| Handover Request Ack | The total number of ACK messages for handover request received over S1AP interface by this MME manager from eNodeB. |
| Handover Cancel | The total number of handover cancel messages received over S1AP interface by this MME manager from eNodeB. |
| Handover Required | The total number of handover required messages received over S1AP interface by this MME manager from eNodeB. |
| Handover Fail | The total number of HANDOVER_FAILURE messages received over S1AP interface by this MME manager from eNodeB. |
| Handover Notify | The total number of HANDOVER_NOTIFY messages received over S1AP interface by this MME manager from eNodeB. |
| Path Switch Req | The total number of PATH_SWITCH_REQ messages received over S1AP interface by this MME manager from eNodeB. |

| Field | Description |
|------------------------|---|
| eNB Status Transfer | The total number of messages received for eNodeB status transfer message over S1AP interface by this MME manager from eNodeB. |
| UE Capability Info Ind | The total number of messages with UE capability information indication received over S1AP interface by this MME manager from eNodeB. |
| Uplink S1 CDMA2000 | The total number of response messages for S1 tunneling with cdma2000 network in uplink direction received over S1AP interface by this MME manager from eNodeB. |
| Trace Failure Ind | The total number of response messages with Session Trace failure indication for specific session received over S1AP interface by this MME manager from eNodeB. |
| Location Report | The total number of LOCATION REPORT messages sent by the eNodeB to the MME providing the UE's location. |
| Loc Report Fail Ind | The total number of LOCATION REPORT FAILURE INDICATION messages sent by the eNodeB to the MME indicating that a LOCATION REPORT CONTROL procedure has failed due to an interaction with a handover procedure. |
| S1AP Decode Fail | The total number of response message indicating S1AP decode failure received over S1AP interface by this MME manager from eNodeB. |
| MME Config Update Fail | The total number of MME CONFIGURATION UPDATE FAILURE messages sent by the eNodeB to the MME indicating an S1-MME configuration update failure. |
| MME Config Update Ack | The total number of MME CONFIGURATION UPDATE ACKNOWLEDGEMENT messages sent by the eNodeB indicating the receipt of the Transport Network Layer (TNL) association information. |
| S1AP Unexpected Event | The total number of message indicating failure due to unexpected event received over S1AP interface by this MME manager from eNodeB. |
| eNB Config Transfer | The total number of ENB CONFIGURATION TRANSFER message received by the MME from the eNodeB for the purpose of transferring RAN configuration information. |
| Uplink Non-UE LPPaTpt | The total number of non-UE uplink transport messages received by the MME from the eNodeB for LPPa (LTE Positioning Protocol annex). |
| Uplink UE LPPaTpt | The total number of UE uplink transport messages received by the MME from the eNodeB for LPPa. |

| Field | Description |
|---------------------------------------|--|
| Kill Response | The total number of CMAS Kill Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to indicate the list of warning areas where cancellation of the broadcast of the identified message was successful and unsuccessful. |
| Write-Replace Warn Resp | The total number of CMAS Write-Replace Warning Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to acknowledge the MME on the start or overwrite request of a warning message. |
| Cell Traffic Trace | The total number of Cell Traffic Trace messages by the MME from eNodeB. |
| Radio Network Error Statistics | This sub-group displays error indication statistics between the MME and the eNodeB. |
| Unknown MME UE S1AP Id | The total number of times an MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Unknown ENB UE S1AP Id | The total number of times an ENB UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Unknown UE S1AP Id Pair | The total number of times an ENB and MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB. |
| Protocol Error Statistics | This sub-group displays protocol error statistics for S1AP messages received by the MME. |
| Transfer Syntax Error | The total number of messages received by the MME from the eNodeB containing a Transfer Syntax Error. |
| Semantic Error | The total number of messages received by the MME from the eNodeB containing a Semantic Error. |
| Message Not Compatible | The total number of messages received by the MME from the eNodeB that were not compatible with the receiver state. |
| Abstract Syntax Error | This sub-group displays abstract syntax error statistics for S1AP messages received by the MME from the eNodeB. |
| Reject | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "reject". |
| Ignore And Notify | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "ignore and notify". |

| Field | Description |
|---|---|
| Falsely Constr Msg | The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error because the message contained IEs or IE groups in the wrong order or with too many occurrences. |
| eNodeB Statistics | This sub-group displays eNodeB statistics for S1AP messages received by the MME from the eNodeB. |
| Total eNodeB Associations | The total number of eNodeB associations |
| EMM (Evolved Mobility Management) Statistics | |
| EPS Associations by Attach using IMSI | This sub-group displays all EMM Evolved Packet System (EPS) IMSI attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations for Emergency Bearer Services | This sub-group displays all EMM Emergency Bearer Service attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by Attach using IMEI | This sub-group displays all EMM IMEI (International Mobile Equipment Identity) attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by Attach using Local GUTI | This sub-group displays all EMM EPS local GUTI (Globally Unique Temporary ID) attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by Attach using Foreign GUTI | This sub-group displays all EMM EPS foreign GUTI attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by Attach using P-TMSI | This sub-group displays all EMM EPS P-TMSI (Packet Temporary Mobile Subscriber Identity) attach association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by TAU using Foreign GUTI | This sub-group displays all EMM EPS foreign GUTI tracking area update association attempts/successes/failures associated with all MME services on the chassis. |
| EPS Associations by TAU using P-TMSI | This sub-group displays all EMM EPS P-TMSI tracking area update association attempts/successes/failures associated with all MME services on the chassis. |

| Field | Description |
|---|--|
| Associations by Combined Attach using IMSI | <p>This sub-group displays all EMM EPS IMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |
| Associations by Combined Attach using Local GUTI | <p>This sub-group displays all EMM EPS local GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |
| Associations by Combined Attach using Foreign GUTI | <p>This sub-group displays all EMM EPS foreign GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |
| Associations by Combined Attach using P-TMSI | <p>This sub-group displays all EMM EPS P-TMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |
| Associations by Combined TAU using Foreign GUTI | <p>This sub-group displays all EMM EPS foreign GUTI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |

| Field | Description |
|--|---|
| Associations by Combined TAU using P-TMSI | This sub-group displays all EMM EPS P-TMSI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY. |
| Authentications | This sub-group displays all EMM authentication attempts/successes/failures associated with all MME services on the system. |
| Identity | This sub-group displays all EMM identity event attempts/successes/failures associated with all MME services on the system. |
| Security | This sub-group displays all EMM security event attempts/successes/failures associated with all MME services on the system. |
| ESM (Evolved S Management) Statistics | |
| PDN type IPv4 only | Counter for PDN Connectivity Reject with cause 50. |
| PDN type IPv6 only | Counter for PDN Connectivity Reject with cause 51. |
| GUTI Relocation | This sub-group displays all GUTI relocation event attempts/successes/failures associated with all MME services on the system. |
| Periodic TAU | This sub-group displays all periodic tracking area update (TAU) attempts/successes/failures associated with all MME services on the system. |
| Normal TAU without SGW Relocation | This sub-group displays all EMM normal tracking area update, without S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. Important In Release 15.0 and later, this counter will only display EPC related TAU. |
| TAU with Bearer Activation | This sub-group displays all EMM tracking area update, with bearer activation, attempts/successes/failures associated with all MME services on the chassis. |
| TAU with SGW Relocation | This sub-group displays all EMM tracking area update, with S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. Important In Release 15.0 and later, this counter will only display EPC related TAU. |

| Field | Description |
|---|--|
| Combined TA/LA Updating without SGW Relocation | This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area did not need SGW relocation. |
| Attempted | The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area does not need SGW relocation. |
| Success | The total number of TAU procedures with update type "combined TA/LA updating" that is executed successfully by the MME. |
| Success EPS Only | The total number of TAU procedures with update type "combined TA/LA updating" that failed during updating the VLR. |
| Failure | The total number of TAU procedures with update type "combined TA/LA updating" that failed. Usually, this would be the case where no SGW could be found for the tracking area. |
| Combined TA/LA Updating with SGW Relocation | This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area required change of the SGW. |
| Attempted | The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW. |
| Success | The total number of TAU procedures with update type "combined TA/LA updating" successfully attempted by the UE and the signaled Tracking area required change of the SGW. |
| Success EPS Only | The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR. |
| Failure | The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure. |
| TAU with IMSI attach without SGW Relocation | This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area did not require change of the SGW. |
| Attempted | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW. |
| Success | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area did not require change of the SGW. |

| Field | Description |
|--|--|
| Success EPS Only | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during updating the VLR. |
| Failure | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure. |
| TAU with IMSI attach and SGW Relocation | This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area required change of the SGW |
| Attempted | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW. |
| Success | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area required change of the SGW. |
| Success EPS Only | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR. |
| Failure | The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure. |
| Detaches UE Initiated | This sub-group displays all UE-initiated detach attempts/successes/failures associated with all MME services on the system. |
| Detaches NW Initiated | This sub-group displays all network-initiated detach attempts/successes/failures associated with all MME services on the system. |
| Detaches HSS Initiated | This sub-group displays all HSS-initiated (Home Subscriber Server) detach attempts/successes/failures associated with all MME services on the system. |
| Mobile Terminated Location Service | This sub-group displays all Mobile Terminated Location Request (MT-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system. |

| Field | Description |
|--|--|
| Network Induced Location Request | This sub-group displays all Network Induced Location Request (NI-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for specific EMM event associated with all MME services on the system. |
| Success | The total number of successful attempts for specific EMM event associated with all MME services on the system. |
| Success EPS Only | The total number of successful, EPS-only, attempts for specific EMM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for specific EMM event associated with all MME services on the system. |
| SGW Selection | Specifies the Blacklisted SGW selected. |
| Blacklisted SGW chosen | specifies the number of times a blacklisted SGW is selected when all SGWs are blacklisted. |
| ECM Statistics | This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system. |
| Idle Mode Entry Events | This sub-group displays all idle mode entry event attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific ECM event associated with all MME services on the system. |
| Success | The total number of successful attempts for the specific ECM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for the specific ECM event associated with all MME services on the system. |
| Service Request Events | This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. Important In Release 14.0 and later, this group of counters is deprecated and replaced by the UE Requested Service Request Events and NW Initiated Service Request Events groups. |
| UE Initiated Service Request Events | This group displays the ECM service request event attempts/successes/failures which have been initiated by the UE for all MME services on the system. |

| Field | Description |
|---|--|
| NW Initiated Service Request Events | This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system. |
| Paging Initiation Events | This group displays all paging initiation event attempts/successes/failures associated with all MME services on the system. Important In Release 15.0 and later, this group of counters is deprecated and replaced by the more granular groups, such as: Paging Initiation Events for PS QCI-<i>n</i> Events, Paging Initiation Events for CS Voice Events, Paging Initiation Events for CS SMS Events, and Paging Initiation Events for CS Other Events. |
| Attempted | The total number of attempts made for the specific ECM event associated with all MME services on the system. |
| Success | The total number of successful attempts for the specific ECM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for the specific ECM event associated with all MME services on the system. |
| Success at Last eNBs | The total number of successful pages where the UE responded at the last known eNodeB. Important In Release 14.0 and later, this output field has been replaced by the following "Success at Last n eNBs" output field. |
| Success at Last n eNBs | The total number of successful pages where the UE responded at the last n known eNodeBs. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked. |
| Paging Initiation for PS QCI-<i>n</i> Events | This group displays the ECM Paging Initiation Events for PS Event attempts/successes/failures associated with all MME services on the system. Statistics are grouped according to the QoS Class Identifier (QCI) value, where <i>n</i> represents the specific QCI value. |
| Attempted | The total number of attempts made for PS events. |
| Success | The total number of successful attempts made for PS events. |

| Field | Description |
|--|--|
| Failures | The total number of attempts failed for PS events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for PS events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for PS events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for PS events. |
| Paging Initiation for CS Voice Events | This group displays the ECM Paging Initiation Events for CS Voice Event attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for CS Voice events. |
| Success | The total number of successful attempts made for CS Voice events. |
| Failures | The total number of attempts failed for CS Voice events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for CS Voice events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Voice events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for CS Voice events. |
| Paging Initiation for CS SMS Events | This group displays the ECM Paging Initiation Events for CS SMS Event attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for CS SMS events. |
| Success | The total number of successful attempts made for CS SMS events. |
| Failures | The total number of attempts failed for CS SMS events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for CS SMS events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS SMS events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for CS SMS events. |
| Paging Initiation for CS Other Events | This group displays the ECM Paging Initiation Events for CS Other Event attempts/successes/ failures associated with all MME services on the system. |

| Field | Description |
|--|---|
| Attempted | The total number of attempts made for CS Other events. |
| Success | The total number of successful attempts made for CS Other events. |
| Failures | The total number of attempts failed for CS Other events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for CS Other events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Other events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for CS Other events. |
| Paging Initiation for CS Unknown UE: | |
| Attempted | Displays the number of times when the session manager sends paging request to at least 1 MME manager. |
| Skipped | Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager. |
| Paging Initiation for SIGNALING IDR Events | This group displays the ECM Paging Initiation Events for IDR Signaling attempts/successes/failures associated with all MME services on the system |
| Attempted | The total number of attempts made for IDR Signaling events. |
| Success | The total number of successful attempts made for IDR Signaling events. |
| Failures | The total number of attempts failed for IDR Signaling events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for IDR Signaling events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for IDR Signaling events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for IDR Signaling events. |
| Paging Initiation for SIGNALING DETACH Events | This group displays the ECM Paging Initiation Events for Detach Signaling attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for Detach Signaling events. |
| Success | The total number of successful attempts made for Detach Signaling events. |
| Failures | The total number of attempts failed for Detach Signaling events. |

| Field | Description |
|--|--|
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for Detach Signaling events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Detach Signaling events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for Detach Signaling events. |
| Paging Initiation for SIGNALING LCS Events | This group displays the ECM Paging Initiation Events for Location Services Signaling attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for Location Services Signaling events. |
| Success | The total number of successful attempts made for Location Services Signaling events. |
| Failures | The total number of attempts failed for Location Services Signaling events. |
| Success at Last n eNB | The total number of successful pages where the UE responded at the last n known eNodeBs for Location Services Signaling events. |
| Success at Last TAI | The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Location Services Signaling events. |
| Success at TAI List | The total number of successful pages where the UE responded after the entire TAI list was checked for Location Services Signaling events. |
| Paging Initiation for SIGNALING Node Restoration Events | This group displays the ECM Paging Initiation Events for Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) Signaling attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that were attempted. |
| Success | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that were successful. |
| Failures | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that failed. |

| Field | Description |
|--|---|
| Success at Last n eNB | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at the last known eNodeB (paging profile used: last-n-enb-last-tai). |
| Success at Last TAI | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in the TAI from which the UE was last heard (paging profile used: all-enb-last-tai). |
| Success at TAI List | The total number of ECM Statistics-related Paging requests to deactivate a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE (paging profile used: all-enb-all-tai). |
| S1 release for load rebalancing | The number of S1 releases occurring due to IDLE MODE ENTRY procedure with a load rebalancing cause. |
| CSFB Statistics | |
| UE Initiated Voice Procedures | This group displays the total number of CSFB Statistics-related UE initiated Voice procedures attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for UE initiated Voice procedures. |
| Success | The total number of successful attempts for UE initiated Voice procedures. |
| Failures | The total number of failed attempts for UE initiated Voice procedures. |
| NW Initiated Voice Procedures | This group displays the total number of CSFB Statistics-related network initiated Voice procedures attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for network initiated Voice procedures. |
| Success | The total number of successful attempts for network initiated Voice procedures. |
| Failures | The total number of failed attempts for network initiated Voice procedures. |
| UE Initiated SMS Procedures | This group displays the total number of CSFB Statistics-related UE initiated SMS procedures attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for UE initiated SMS procedures. |

| Field | Description |
|------------------------------------|---|
| Success | The total number of successful attempts for UE initiated SMS procedures. |
| Failures | The total number of failed attempts for UE initiated SMS procedures. |
| NW Initiated SMS Procedures | This group displays the total number of CSFB Statistics-related network initiated SMS procedures attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for network initiated SMS procedures. |
| Success | The total number of successful attempts for network initiated SMS procedures. |
| Failures | The total number of failed attempts for network initiated SMS procedures. |
| UE Initiated IMSI Detaches | This group displays the total number of CSFB Statistics-related UE initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for UE initiated IMSI detaches. |
| Success | The total number of successful attempts for UE initiated IMSI detaches. |
| Failures | The total number of failed attempts for UE initiated IMSI detaches. |
| NW Initiated IMSI Detaches | This group displays the total number of CSFB Statistics-related network initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system. |
| Attempted | The total number of attempts for network initiated IMSI detaches. |
| Success | The total number of successful attempts for network initiated IMSI detaches. |
| Failures | The total number of failed attempts for network initiated IMSI detaches. |
| Total EMM Control Messages | |
| Sent | This sub-group displays the total number of EPS Mobility Management (EMM) control messages sent for specific event associated with all MME services on the system. |
| Clear-text messages | The total number of plain EMM messages (neither integrity protected nor ciphered) sent by all MME services on the system. |
| Integrity-check enabled | The total number of integrity protected EMM messages sent by all MME services on the system. |

| Field | Description |
|-------------------------|--|
| Ciphered messages | The total number of ciphered EMM messages sent by all MME services on the system. |
| Retransmissions sent | The total number of EMM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted n number of times if no response (Attach Complete) is received from the UE. |
| Failures | The total number of EMM control messages not sent due to lower layer failure for all MME services on the system. |
| Attach Accept | The total number of EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system. |
| IMSI Unknown in HSS | The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown. |
| MSC Unreachable | The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available. |
| Network Failure | The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure. |
| CS Domain Not Available | The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available. |
| Congestion | The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion. |
| Attach Reject | The total number of EMM Attach Reject messages sent. |
| IMSI Unknown in HSS | The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS". |
| Illegal UE | The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE". |
| Illegal ME | The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME". |
| EPS Not Allowed | The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed". |
| Network Failure | The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure". |
| CSG Not Subscribed | The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG". |

| Field | Description |
|-------------------------|---|
| Decode Failure | The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure". |
| IMEI Not Accepted | The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted". |
| Roaming restricted TA | The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA". |
| PLMN not allowed | The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed". |
| TA not allowed | The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed". |
| No suitable cells in TA | The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA". |
| EPS non-EPS Not Allwd | The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed". |
| No EPS Svc in this PLMN | The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn". |
| Congestion | The total number of EMM Attach Reject messages sent with cause #22: "Congestion". |
| Severe Network Failure | The total number of EMM Attach Reject messages sent with cause #42: "Severe Network Failure". |
| ESM Failure | The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event associated with all MME services on the system. |
| Rejected by PGW/SGW | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW". |
| Authentication Failed | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed". |
| Svc Opt Not Supported | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported". |
| Svc Opt Not Subscribed | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed". |
| Unknown APN | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN". |

| Field | Description |
|-------------------------|---|
| Opr Determined Barring | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #8: "Operator Determined Barring". |
| Insufficient Resource | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources". |
| Activation Rejected | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified". |
| Svc Opt Tmp OutofOrder | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order". |
| Protocol Errors | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111. |
| APN Restrict Incomt | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content". |
| No Attach Reject/Accept | The total number of Attach Accept or Reject messages not sent for Attach requests. |
| Authentication Fail | The total number of authentication failed and an Attach Accept or Reject message is not sent. |
| UE initiated detach | The total number of attach requests failed due to collision between an attach request and UE initiated detach and an Attach Accept or Reject message is not sent. |
| Detach in progress | The total number of attach requests failed due to collision between an attach request and NW initiated detach and an Attach Accept or Reject message is not sent. |
| Different Attach Recvd | The total number of attach request failed due to collision between two different attach requests with different IEs and the first attach request is dropped and an Attach Accept or Reject message is not sent. |
| Authentication Reject | The total number of EMM Attach Reject messages sent with the cause "Authentication Reject". |
| Authentication Request | The total number of EMM Authentication Request messages sent. |
| Retransmissions | The total number of retransmitted EMM Authentication Request messages sent. |

| Field | Description |
|------------------------|--|
| Detach Request | The total number of EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system. |
| Reattach Required | The total number of EMM Detach Request messages sent, with the reason "Reattach Required", for a specific ECM event associated with all MME services on the system. |
| Reattach Not Required | The total number of EMM Detach Request messages sent, with the reason "Reattach Not Required", for a specific ECM event associated with all MME services on the system. |
| IMSI Detach | The total number of EMM Detach Request messages sent, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system. Important This statistic is available in Releases prior to 12.2 as well as 15.0 and later. |
| CSG Not Subscribed | The total number of EMM Detach Request messages sent with the cause code of #25: "Not authorized for this CSG". This occurs when the Initial UE Message sent from the eNodeB specifies a non-hybrid CSG cell whose CSG ID is not included in the UE's CSG subscription list. In this circumstance, the MME initiates a Detach procedure with this cause code. |
| Detach Accept | The total number of EMM Detach Accept messages sent for a specific ECM event associated with all MME services on the system. |
| Downlink NAS Transport | The total number of EMM Downlink NAS Transport messages sent for a specific ECM event associated with all MME services on the system. |
| EMM Information | The total number of EMM Information messages sent for a specific ECM event associated with all MME services on the system. |
| EMM Status | The total number of EMM Status messages sent for a specific ECM event associated with all MME services on the system. |
| GUTI Relocation | The total number of EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system. |

| Field | Description |
|-------------------------|--|
| Retransmissions | The total number of retransmitted EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system. |
| Identity Request | The total number of EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system. |
| Security Mode Command | The total number of EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system. |
| Service Reject | The total number of EMM Service Reject messages sent. |
| UE Identity Unknown | The total number of EMM Service Reject messages sent, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached". |
| No Bearer Active | The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated". |
| CSG Not Subscribed | The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG". |
| Roaming Restricted TA | The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area". |
| No suitable cells in TA | The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area". |
| TA Not Allowed | The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed". |
| Congestion | The total number of EMM Service Reject messages sent with cause #22: "Congestion". |
| TAU Accept Total | The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). Note: If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented. |

| Field | Description |
|-------------------------|--|
| Retransmissions | The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request). |
| IMSI Unknown in HSS | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS". |
| MSC Unreachable | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion". |
| TAU Accept Intra MME | The total number of TAU Accept messages sent for an Intra-MME TAU request. |
| Retransmissions | The total number of TAU Accept messages retransmitted for an Intra-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |
| MSC Unreachable | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion". |
| TAU Accept Inter MME | The total number of TAU Accept messages sent for an Inter-MME TAU request. |
| Retransmissions | The total number of TAU Accept messages retransmitted for an Inter-MME TAU request. |

| Field | Description |
|-------------------------|--|
| IMSI Unknown in HSS | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |
| MSC Unreachable | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion". |
| TAU Reject Total | The total number of EMM TAU Reject messages sent. |
| IMSI Unknown in HSS | The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS". |
| Illegal UE | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE". |
| Illegal ME | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted". |
| ESM Failure | The total number of EMM TAU Reject messages sent with the cause "ESM Failure". Important This statistic has been deprecated in Release 12.2. |
| Decode Failure | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch". |

| Field | Description |
|-------------------------|--|
| No Bearer Active | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed". |
| TA not allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG. |
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed. |
| Congestion | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #22: "Congestion". |
| Severe Network Failure | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #42: "Severe Network Failure". |
| TAU Reject Intra MME | The total number of TAU Reject messages sent for an Intra-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS. |

| Field | Description |
|-------------------------|---|
| Illegal UE | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE". |
| Illegal ME | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted". |
| Decode Failure | The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch". |
| No Bearer Active | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed". |
| TA not allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG". |

| Field | Description |
|------------------------|--|
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed". |
| Congestion | The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #22: "Congestion". |
| Severe Network Failure | The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #42: "Severe Network Failure". |
| TAU Reject Inter MME | The total number of TAU Reject messages sent for an Inter-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |
| Illegal UE | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE". |
| Illegal ME | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted". |
| Decode Failure | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch". |
| No Bearer Active | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed". |

| Field | Description |
|-------------------------|---|
| TA not allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG". |
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed". |
| Congestion | The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #22: "Congestion". |
| Severe Network Failure | The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #42: "Severe Network Failure". |
| No TAU Rej/Accept Total | The total number of TAU Accept or Reject messages not sent for TAU (Intra-MME + Inter-node) requests. |
| Authentication Failed | The total number of TAU (Intra-MME + Inter-node) requests failed due to authentication failures and no TAU Accept or Reject message is sent. |
| UE initiated detach | The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and UE initiated detach and no TAU Accept or Reject message is sent. |
| Detach in progress | The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and NW initiated detach and no TAU Accept or Reject message is sent. |
| Different TAU Recvd | The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between two different TAU (Intra-MME or Inter-node) requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent. |
| Attach awaits MBResp | The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent. |

| Field | Description |
|--------------------------|---|
| No IntraMME TAU Rej/Act | The total number TAU Accept or Reject messages not sent for Intra-MME TAU requests. |
| Authentication Failed | The total number Intra-MME TAU requests failed due to authentication failures and no TAU Accept or Reject message is sent. |
| UE initiated detach | The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and UE initiated detach and no TAU Accept or Reject message is sent. |
| Detach in progress | The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and NW initiated detach and no TAU Accept or Reject message is sent. |
| Different TAU Recvd | The total number of Intra-MME TAU requests failed due to collision between two different Intra-MME TAU requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent. |
| Attach awaits MBResp | The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent. |
| No InterNode TAU Rej/Act | The total number of TAU Accept or Reject messages not sent for Inter-node TAU requests. |
| Authentication Failed | The total number of Inter-node TAU requests failed due to authentication failure and a TAU Accept or Reject message is not sent. |
| UE initiated detach | The total number of Inter-node TAU requests failed due to collision between an Inter-node TAU request and UE initiated detach and a TAU Accept or Reject message is not sent. |
| Different TAU Recvd | The total number of Inter-node TAU requests failed due to collision between two different Inter-node TAU requests with different IEs and the first TAU request is dropped and a TAU Accept or Reject message is not sent. |
| CS Service Notification | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #100: "CS Service notification". |
| Received | This sub-group displays the statistics of all EPS Mobility Management (EMM) control messages received by an MME services on the system. |
| Clear-text messages | The total number of plain EMM messages (neither integrity protected nor ciphered) received by all MME services on the system. |

| Field | Description |
|-------------------------|---|
| Integrity-check enabled | The total number of integrity protected EMM messages received by all MME services on the system. |
| Ciphered messages | The total number of ciphered EMM messages received by all MME services on the system. |
| Accepted | The total number of EMM messages received by all MME services on the system and accepted for further processing. |
| Ignored messages | The total number of EMM control messages received by all MME services on the system, but were ignored because the MME was busy processing some other procedure. |
| Denied | The total number of EMM control messages received by all MME services on the system, but the security check failed for the EMM message. |
| Decode failures | The total number of EMM control messages received by all MME services on the system, but the MME was unable to decode the EMM message as per 3GPP TS 24.301. |
| Attach Complete | The total number of EMM Attach Complete messages received for a specific ECM event associated with all MME services on the system. |
| Attach Request | The total number of EMM Attach Request messages received for a specific ECM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted EMM Attach Request messages received for a specific ECM event associated with all MME services on the system. Important This field was deprecated in Release 14.0. It was introduced again in Release 15.0. |
| Authentication Failure | The total number of EMM Authentication Failure messages received for a specific ECM event associated with all MME services on the system. |
| Authentication Response | The total number of EMM Authentication Response messages received for a specific ECM event associated with all MME services on the system. |
| Identity Response | The total number of IMSI Identity Response messages received for a specific ECM event associated with all MME services on the system. |
| Detach Request | The total number of EMM Detach Request messages received for a specific ECM event associated with all MME services on the system. |

| Field | Description |
|------------------------|--|
| Switch Off | The total number of EMM Detach Request messages received, with the reason "Switch Off", for a specific ECM event associated with all MME services on the system. |
| Not Switch Off | The total number of EMM Detach Request messages received, with the reason "Not Switch Off", for a specific ECM event associated with all MME services on the system. |
| IMSI Detach | The total number of EMM Detach Request messages received, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system. |
| EMM Status | The total number of EMM Status messages received for a specific ECM event associated with all MME services on the system. |
| GUTI Reloc Complete | The total number of EMM GUTI Reloc Complete messages received for a specific ECM event associated with all MME services on the system. |
| Security Mode Complete | The total number of EMM Security Mode Complete messages received for a specific ECM event associated with all MME services on the system. |
| Security Mode Reject | The total number of EMM Security Mode Reject messages received for a specific ECM event associated with all MME services on the system. |
| Service Request | The total number of EMM Service Request messages received for a specific ECM event associated with all MME services on the system. |
| TAU Request Total | The total number of TAU Request messages received (either an Inter- or Intra-MME TAU request). Note: If the MME receives a TAU Request message for the same UE while the first TAU Request is in process, both the "TAU Request Total" and "Retransmissions" counters will be incremented. |
| Retransmissions | The total number of retransmitted TAU Request messages received (includes both Inter- and Intra-MME TAU requests). Important This field was deprecated in Release 14.0. It was introduced again in Release 15.0. |
| TAU Request Intra-MME | The total number of Intra-MME TAU Request messages received. |
| Retransmissions | The total number of retransmitted Intra-MME TAU Request messages received. |
| TAU Request Inter-MME | The total number of Inter-MME TAU Request messages received. |

| Field | Description |
|---|--|
| Retransmissions | The total number of retransmitted Inter-MME TAU Request messages received. |
| TAU Complete | The total number of EMM TAU Complete messages received for a specific ECM event associated with all MME services on the system. |
| Extended Service Request | The total number of EMM Extended Service Request messages received for a specific ECM event associated with all MME services on the system. |
| ESM Statistics | |
| PDN Connections | This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system. |
| PDN Connections with PDN-type Override to IPv4 | This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overridden to IPv4. |
| PDN Connections with PDN-type Override to IPv6 | This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overridden to IPv6. |
| UE Initiated PDN Disconnections | This group displays the statistics for UE-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system. |
| MME Initiated PDN Disconnections | This group displays the statistics for MME-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated PDN Disconnections | This group displays the statistics for P-GW/S-GW-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system. |
| HSS Initiated PDN Disconnections | This group displays the statistics for HSS-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system. |
| Default Bearer Activations | This group displays the statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system. |
| NW Initiated Dedicated Bearer Activations | This group displays the statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system. |

| Field | Description |
|---|---|
| UE Initiated Dedicated Bearer Activations | This group displays the statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system. |
| MME Initiated Dedicated Bearer Deactivations | This group displays the statistics of all MME-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated Dedicated Bearer Deactivations | This group displays the statistics of all P-GW/S-GW-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Dedicated Bearer Deactivations | This group displays the statistics of all UE-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| MME Initiated Default Bearer Deactivations | This group displays the statistics of all MME-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated Default Bearer Deactivations | This group displays the statistics of all P-GW/S-GW-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Default Bearer Deactivations | This group displays the statistics of all UE-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system. |
| MME Initiated Bearer Deactivations | This group displays the statistics of all MME-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. Important In Release 14.0 and later, this group of counters is deprecated and replaced by the MME Initiated Dedicated Bearer Deactivations and MME Initiated Default Bearer Deactivations groups. |
| PGW/SGW Initiated Bearer Deactivations | This group displays the statistics of all P-GW/S-GW-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. Important In Release 14.0 and later, this group of counters is deprecated and replaced by the PGW/SGW Initiated Dedicated Bearer Deactivations and PGW/SGW Initiated Default Bearer Deactivations groups. |

| Field | Description |
|---|---|
| UE Initiated Bearer Deactivations | <p>This group displays the statistics of all UE-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system.</p> <p>Important In Release 14.0 and later, this group of counters is deprecated and replaced by the UE Initiated Dedicated Bearer Deactivations and UE Initiated Default Bearer Deactivations groups.</p> |
| HSS Initiated Bearer Modifications | This group displays the statistics of all HSS-initiated bearer modification attempts/successes/failures associated with all MME services on the system. |
| PGW/SGW Initiated Bearer Modifications | This group displays the statistics of all P-GW/S-GW-initiated bearer modification attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Bearer Modifications | This group displays the statistics of all UE-initiated bearer modification attempts/successes/failures associated with all MME services on the system. |
| UE Initiated Emergency PDN Connections | This group displays the statistics of all UE-initiated emergency PDN connection attempts/successes/failures associated with all MME services on the system. |
| DCNR User PDN Connections | This group displays the statistics of all DCNR user PDN connection attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for specific ESM event associated with all MME services on the system. |
| Success | The total number of successful attempts for specific ESM event associated with all MME services on the system. |
| Failures | The total number of attempts failed for specific ESM event associated with all MME services on the system. |
| Total ESM Control Messages | |
| Sent | This sub-group displays the statistics of all EPS Session Management (ESM) control messages sent by an MME services on the system. |
| Clear-text messages | The total number of plain ESM messages (neither integrity protected nor ciphered) sent by all MME services on the system. |
| Integrity-check enabled | The total number of integrity protected ESM messages sent by all MME services on the system. |
| Ciphered messages | The total number of ciphered ESM messages sent by all MME services on the system. |

| Field | Description |
|----------------------|--|
| Retransmissions sent | The total number of ESM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted n number of times if no response (Attach Complete) is received from the UE. |
| Failures | The total number of ESM control messages not sent due to lower layer failure for all MME services on the system. |
| Act Dedicated Bearer | The total number of ESM Activate Dedicated Bearer messages sent for a specific ESM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted ESM Activate Dedicated Bearer messages sent for a specific ECM event associated with all MME services on the system. |
| Act Default Bearer | The total number of ESM Activate Default Bearer messages sent for a specific ESM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted ESM Activate Default Bearer messages sent for a specific ECM event associated with all MME services on the system. |
| Bearer Alloc Reject | The total number of ESM Bearer Allocate Reject messages sent for a specific ESM event associated with all MME services on the system. |
| PTI Already in Use | The total number of ESM Bearer Allocate Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system. |
| Semantic Error TFT | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system. |
| Syntactic Error TFT | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system. |
| Invalid Bearer Id | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system. |
| Collision with NW Op | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system. |
| Rejected By PGW/SGW | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system. |

| Field | Description |
|------------------------|--|
| Invalid PTI | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system. |
| Insufficient Resources | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system. |
| Authentication failed | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system. |
| Sv opt not supported | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system. |
| Svc opt not subscribed | The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system. |
| EPS QoS Not Accepted | The total number of ESM Bearer Allocate Reject messages sent, for bearer allocation failures, with the cause "EPS QoS Not Accepted". |
| Bearer Modify Reject | The total number of ESM Bearer Modify Reject messages sent for a specific ESM event associated with all MME services on the system. |
| PTI Already in Use | The total number of ESM Bearer Modify Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system. |
| Semantic Error TFT | The total number of ESM Bearer Modify Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system. |
| Syntactic Error TFT | The total number of ESM Bearer Modify Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system. |
| Invalid Bearer Id | The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system. |
| Collision with NW Op | The total number of ESM Bearer Modify Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system. |
| Rejected By PGW/SGW | The total number of ESM Bearer Modify Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system. |

| Field | Description |
|-------------------------|--|
| Invalid PTI | The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system. |
| Insufficient Resources | The total number of ESM Bearer Modify Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system. |
| Authentication failed | The total number of ESM Bearer Modify Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system. |
| Sv opt not supported | The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system. |
| Svc opt not subscribed | The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system. |
| Deactivate Bearer | The total number of ESM Deactivate Bearer messages sent for a specific ESM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted ESM Deactivate Bearer messages sent for a specific ECM event associated with all MME services on the system. |
| ESM Information Req | The total number of ESM Information Request messages sent for a specific ESM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted ESM Information Request messages sent for a specific ECM event associated with all MME services on the system. |
| Modify Bearer | The total number of ESM Modify Bearer messages sent for a specific ESM event associated with all MME services on the system. |
| Retransmissions | The total number of retransmitted ESM Modify Bearer messages sent for a specific ECM event associated with all MME services on the system. |
| PDN Connectivity Reject | The total number of ESM PDN Connectivity Reject messages sent. |
| PTI Already in Use | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #35: "PTI Already in Use". |
| Unknown or Missing APN | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #27: "Unknown or Missing APN". |

| Field | Description |
|------------------------|--|
| Unknown PDN Type | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #28: "Unknown PDN Type". |
| Invalid Bearer Id | The total number of ESM PDN Connectivity Reject messages sent, with the cause code code #43: "Invalid EPS Bearer Id". |
| Invalid PTI | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #81: "Invalid PTI value". |
| Rejected By PGW/SGW | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #30: "Rejected By SGW or PGW". |
| Authentication failed | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #29: "User Authentication failed". |
| Sv opt not supported | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #32: "Service Option Not Supported". |
| Svc opt not subscribed | The total number of ESM PDN Connectivity Reject messages sent, with the cause code #33: "Service Option Not Subscribed". |
| Opr Determined Barring | The total number of ESM PDN Connectivity Reject messages sent with cause code #8: "Operator Determined Barring". |
| Insufficient Resource | The total number of ESM PDN Connectivity Reject messages sent with cause code #26: "Insufficient Resources". |
| Activation Rejected | The total number of ESM PDN Connectivity Reject messages sent with cause code #31: "Request rejected, unspecified". |
| Svc Opt Tmp OutofOrder | The total number of ESM PDN Connectivity Reject messages sent with cause code #34: "Service Option Temporarily Out of Order". |
| Protocol Errors | The total number of ESM PDN Connectivity Reject messages sent with any of the following Protocol Error cause codes: #95-101, or #111. |
| APN Restrict Incomt | The total number of ESM PDN Connectivity Reject messages sent with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content". |
| PDN Disconnect Reject | The total number of ESM PDN Disconnect Reject messages sent for a specific ESM event associated with all MME services on the system. |
| PTI Already in Use | The total number of ESM PDN Disconnect Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system. |
| Last PDN Disconnection | The total number of ESM PDN Disconnect Reject messages sent, with the cause "Last PDN Disconnection", for a specific ESM event associated with all MME services on the system. |

| Field | Description |
|--------------------------|---|
| Invalid PTI | The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system. |
| Invalid Bearer Id | The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system. |
| Received | This sub-group displays the statistics of all EPS Session Management (ESM) control messages received by an MME services on the system. |
| Clear-text messages | The total number of plain ESM messages (neither integrity protected nor ciphered) received by all MME services on the system. |
| Integrity-check enabled | The total number of integrity protected ESM messages received by all MME services on the system. |
| Ciphered messages | The total number of ciphered ESM messages received by all MME services on the system. |
| Accepted | The total number of ESM messages received by all MME services on the system and accepted for further processing. |
| Decode failures | The total number of ESM control messages received by all MME services on the system which the MME was unable to decode the message as per 3GPP TS 24.301. |
| Act Dedicated Brr Accept | The total number of ESM Activate Dedicated Bearer Accept messages received for a specific ESM event associated with all MME services on the system. |
| Act Dedicated Brr Reject | The total number of ESM Activate Dedicated Bearer Reject messages received for a specific ESM event associated with all MME services on the system. |
| Act Default Brr Accept | The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system. |
| Act Default Brr Reject | The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system. |
| Deactivate Brr Accept | The total number of ESM Deactivate EPS Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system. |
| Brr Rsrc Alloc Request | The total number of ESM Bearer Resource Allocation Request messages received for a specific ESM event associated with all MME services on the system. |

| Field | Description |
|----------------------------|---|
| Brr Rsrc Modify Request | The total number of ESM Bearer Resource Modify Request messages received for a specific ESM event associated with all MME services on the system. |
| ESM Information Response | The total number of ESM Information Response messages received for a specific ESM event associated with all MME services on the system. |
| ESM Status | The total number of ESM Status messages received for a specific ESM event associated with all MME services on the system. |
| Modify Brr Ctxt Accept | The total number of ESM Modify Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system. |
| Modify Brr Ctxt Reject | The total number of ESM Modify Bearer Context Reject messages received for a specific ESM event associated with all MME services on the system. |
| PDN Connectivity Request | The total number of ESM PDN Connectivity Request messages received for a specific ESM event associated with all MME services on the system. |
| PDN Disconnect Request | The total number of ESM PDN Disconnect Request messages received for a specific ESM event associated with all MME services on the system. |
| Handover Statistics | |
| Intra MME Handover | This sub-group displays statistics of intra-MME handovers associated with all MME services on the system. |
| Path Update procedures | This sub-group under "Intra MME Handover" displays statistics of E-RAB Modification Indication procedures (procedure level stats) associated with all MME services on the system. |
| X2-based handovers | This sub-group displays the all X2-based (intra-MME) handover attempts/successes/failures associated with all MME services on the system. |
| S1-based handovers | This sub-group displays the all S1-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |

| Field | Description |
|--|---|
| EUTRAN<-> EUTRAN using S10 Interface | This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system. |
| Outbound relocation using TAU procedure | This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using TAU (Tracking Area Update) procedures and associated with all MME services on the system. |
| Outbound relocation using S1 HO procedure | This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using S1 handover procedures and associated with all MME services on the system. |
| Inbound relocation using TAU procedure | This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system. |
| Inbound relocation using S1 HO procedure | This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using S1 handover procedures and associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> UTRAN (Iu mode) SRNS Relocations using GnGp Interface | This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for SRNS (Serving Radio Network Subsystem) relocations associated with all MME services on the system. |
| Outbound relocation | This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for outbound SRNS relocations associated with all MME services on the system. |
| Inbound relocation | This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for inbound SRNS relocations associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |

| Field | Description |
|---|---|
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> GERAN (A/Gb Mode) PS Handovers using GnGp Interface | This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover via A/Gb mode attempts/successes/failures associated with all MME services on the system. |
| Outbound relocation | This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system. |
| Inbound relocation | This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> UTRAN (Iu or A/Gb Mode) Cell Reselections using GnGp Interface | This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures associated with all MME services on the system. |
| Outbound relocation using RAU procedure | This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system. |
| Inbound relocation using TAU procedure | This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system. |
| EUTRAN<-> UTRAN (Iu mode) Inter-RAT Handovers using S3 Interface | This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures via Iu mode associated with all MME services on the system. |
| Outbound relocation | This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system. |

| Field | Description |
|---|--|
| Inbound relocation | This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> GERAN (A/Gb mode) Inter-RAT Handovers using S3 Interface | This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode associated with all MME services on the system. |
| Outbound relocation | This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on outbound relocation and associated with all MME services on the system. |
| Inbound relocation | This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on inbound relocation and associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> UTRAN/GERAN (Iu or A/Gb Mode) Cell Reselections using S3 Interface | This group displays the all S3-based (MME-R8/2.5G/SGSN) cell reselection via Iu or A/Gb mode attempts/successes/failures associated with all MME services on the system. |
| Outbound relocation using RAU procedure | This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system. |
| Inbound relocation using TAU procedure | This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific EPS handover type associated with all MME services on the system. |

| Field | Description |
|---|---|
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific EPS handover associated with all MME services on the system. |
| EUTRAN<-> UTRAN/GERAN using Sv Interface | This group displays the all Sv-based (MME-R8/2.5G/SGSN) handover attempts/successes/failures associated with all MME services on the system. |
| CS only handover with no DTM support | This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched, non-DTM (Dual Transfer Mode) handover attempts/successes/failures and associated with all MME services on the system. |
| CS only handover | This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched handover attempts/successes/failures associated with all MME services on the system. |
| CS and PS handover | This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched and packet-switched handover attempts/successes/failures associated with all MME services on the system. |
| Attempted | The total number of attempts made for the specific handover type associated with all MME services on the system. |
| Success | The total number of successful handovers for the specific handover type associated with all MME services on the system. |
| Failures | The total number of attempts that failed for the specific handover associated with all MME services on the system. |
| EUTRAN<-> Non-3GPP Unoptimized Handovers | This group displays all non-3GPP non-optimized handover attempts/successes/failures associated with all MME services on the system. |
| Outbound relocation (Per PDN) | This sub-group displays all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis. |
| Inbound relocation (Per PDN) | This sub-group displays the all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis. |
| Attempted | The total number of attempts made for the specific handover type associated with all MME services on the system. |
| Success | The total number of successful handovers made for the specific handover type associated with all MME services on the system. |

| Field | Description |
|-------------------------------------|---|
| Failures | The total number of attempts that failed made for the specific handover type associated with all MME services on the system. |
| PDN Statistics | |
| All PDNs | Displays statistics for all PDNs, connected and idle, through the MME service(s) on the system. |
| Connected PDNs | Displays statistics for connected PDNs through the MME service(s) on the system. |
| Idle PDNs | Displays statistics for idle PDNs through the MME service(s) on the system. |
| Emergency PDN Statistics | |
| All PDNs | Displays statistics for all emergency PDNs, connected and idle, through the MME service(s) on the system. |
| Connected PDNs | Displays statistics for connected emergency PDNs through the MME service(s) on the system. |
| Idle PDNs | Displays statistics for idle emergency PDNs through the MME service(s) on the system. |
| DCNR User PDN Statistics | |
| All PDNs | Displays statistics for all DCNR user PDNs, connected and idle, through the MME service(s) on the system. |
| Connected PDNs | Displays statistics for connected DCNR user PDNs through the MME service(s) on the system. |
| Idle PDNs | Displays statistics for idle DCNR user PDNs through the MME service(s) on the system. |
| Bearer Statistics | |
| All Bearers | This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system. |
| Connected Bearers | This sub-group displays statistics for connected bearers through the MME service(s) on the system. |
| Idle Bearers | This sub-group displays statistics for idle bearers through the MME service(s) on the system. |
| Bearers Using Operator-Specific QCI | This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system, using operator specific QCI values. |
| ERAB Modification Indication: | |

| Field | Description |
|---|---|
| Attempted | Indicates the number of bearers for which the E-RAB Modification Indication procedure is attempted (bearer level stats). |
| Success | Indicates the number of bearers for which the E-RAB Modification Indication procedure has succeeded (bearer level stats). |
| Failures | Indicates the number of bearers for which the E-RAB Modification Indication procedure has failed (bearer level stats). |
| Session Statistics | |
| Attached Calls | This sub-group displays statistics for all calls, connected and idle, through the MME service(s) on the system. |
| Connected Calls | This sub-group displays statistics for connected calls through the MME service(s) on the system. |
| Idle Calls | This sub-group displays statistics for idle calls through the MME service(s) on the system. |
| Emergency Session Statistics | |
| Attached Calls | This sub-group displays statistics for all emergency calls, connected and idle, through the MME service(s) on the system. |
| Connected Calls | This sub-group displays statistics for connected emergency calls through the MME service(s) on the system. |
| Idle Calls | This sub-group displays statistics for idle emergency calls through the MME service(s) on the system. |
| Unauthenticated Session Statistics | |
| Attached Calls | This sub-group displays statistics for all unauthenticated calls, connected and idle, through the MME service(s) on the system. |
| Connected Calls | This sub-group displays statistics for connected and unauthenticated calls through the MME service(s) on the system. |
| Idle Calls | This sub-group displays statistics for idle unauthenticated calls through the MME service(s) on the system. |
| Disconnect Statistics | |
| UE detached | The total number of disconnected sessions, with the reason "UE detached", originally connected through the MME service(s) on the system. |
| PGW detached | The total number of disconnected sessions, with the reason "PGW detached", originally connected through the MME service(s) on the system. |

| Field | Description |
|------------------------------------|---|
| HSS detached | The total number of disconnected sessions, with the reason "HSS detached", originally connected through the MME service(s) on the system. |
| MME detached | The total number of disconnected sessions, with the reason "MME detached", originally connected through the MME service(s) on the system. |
| Implicit detach | The total number of disconnected sessions, with the reason "Implicit detach", originally connected through the MME service(s) on the system. |
| Local abort | The total number of disconnected sessions, with the reason "Local abort", originally connected through the MME service(s) on the system. |
| Authentication failure | The total number of disconnected sessions, with the reason "Authentication failure", originally connected through the MME service(s) on the system. |
| Sub parameter failure | The total number of disconnected sessions, with the reason "Sub parameter failure", originally connected through the MME service(s) on the system. |
| Other reasons | The total number of disconnected sessions, with the reason "Other reasons", originally connected through the MME service(s) on the system. |
| ISR Deactivation Statistics | |
| S3 path failure | The total number of Idle mode Signaling Reduction (ISR) deactivations due to failure in the S3 interface. |
| SGSN local detach | The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGSN detach notification. |
| SGW relocation | The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGW relocation of the session to an MME/SGSN which does not support ISR. |
| CN Node relocation | The total number of Idle mode Signaling Reduction (ISR) deactivations due to CN Node relocation of the session to an MME/SGSN which does not support ISR. |
| Implicit detach | The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN. |
| Other detach procedures | The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN. |

| Field | Description |
|---------------------------------------|--|
| Other reasons | The total number of Idle mode Signaling Reduction (ISR) deactivations due to a reason not otherwise classified by one of the other ISR Deactivation Statistics categories. |
| GUTI Reallocation | This group displays policy triggered GUTI re-allocation procedure statistics. |
| Attempted | The total number of GUTI Reallocation procedures attempted for this MME service. |
| Failures | The total number of GUTI Reallocation procedure failures for this MME service. |
| Success | The total successful number of GUTI Reallocations procedures completed successfully for this MME service. |
| GUTI Reallocation | This group displays message statistics for policy triggered GUTI re-allocation. |
| Attach Accept | Number of non-retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier. |
| Retransmissions | Number of retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier. |
| TAU Accept | Number of non-retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier. |
| Retransmissions | Number of retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier. |
| GUTI Reallocation cmd | Number of non-retransmitted NAS GUTI Reallocation Command messages sent. |
| Retransmissions | Number of retransmitted NAS GUTI Reallocation Command messages sent. |
| Paging Initiation for PS ARP-N Events | Displays paging initiation information for packet switched ARP events. |
| Attempted | Displays the number of paging events attempted. |
| Success | Displays the number of successful paging events. |
| Failures | Displays the number of failed paging events. |
| Success at Last n eNB | Displays the number of successful paging events at the last known eNodeB. |
| Success at Last TAI | Displays the number of successful paging events at the last TAI. |
| Success at TAI List | Displays the number of S13 additional IMEI checks that timed out during attach procedures. |

| Field | Description |
|---|--|
| Paging Initiation for PS APN-Profile Events | Displays paging initiation information for packet switched APN profile events. |
| Attempted | Displays the number of paging events attempted. |
| Success | Displays the number of successful paging events. |
| Failures | Displays the number of failed paging events. |
| Success at Last n eNB | Displays the number of successful paging events at the last known eNodeB. |
| Success at Last TAI | Displays the number of successful paging events at the last TAI. |
| Success at TAI List | Displays the number of successful paging events at the TAI list. |
| Paging Initiation for PS SMS Events: | |
| Attempted | The total number of ECM statistics-related PS SMS Paging Initiation events that were attempted. |
| Success | The total number of ECM statistics-related PS SMS Paging Initiation events that were successful. |
| Failures | The total number of ECM statistics-related PS SMS Paging Initiation events that failed. |
| Success at Last n eNB | The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at the last known eNodeB. |
| Success at Last TAI | The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in the TAI from which the UE was last heard. |
| Success at TAI List | The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE. |
| S13 Statistics: | |
| Additional ME Identity Check Procedures (Attach): | |
| Requests: | Displays the number of S13 additional IMEI checks requested during attach procedures. |
| Answer: | Displays the number of S13 additional IMEI checks answered during attach procedures. |
| Success: | Displays the number of S13 additional IMEI checks that were successful during attach procedures. |
| Failure: | Displays the number of S13 additional IMEI checks that failed during attach procedures. |

| Field | Description |
|---|--|
| Additional ME Identity Check Procedures (TAU): | |
| Requests: | Displays the number of S13 additional IMEI checks requested during a TAU. |
| Answer: | Displays the number of S13 additional IMEI checks answered during a TAU. |
| Success: | Displays the number of S13 additional IMEI checks that were successful during TAU. |
| Failure: | Displays the number of S13 additional IMEI checks that failed during TAU. |
| Timeout: | Displays the number of S13 additional IMEI checks that timed out during TAU. |
| Additional ME Identity Check Procedures (Handover): | |
| Requests: | Displays the number of S13 additional IMEI checks requested during handover procedures. |
| Answer: | Displays the number of S13 additional IMEI checks answered during handover procedures. |
| Success: | Displays the number of S13 additional IMEI checks that were successful during handover procedures. |
| Failure: | Displays the number of S13 additional IMEI checks that failed during handover procedures. |
| Timeout: | Displays the number of S13 additional IMEI checks that timed out during handover procedures. |
| EDRX Subscribers | Displays information about the eDRX subscribers. |
| Attached Calls | Displays the number of attached subscribers for which eDRX is enabled. |
| DDN Rejects | Displays the number of DDNs rejected when eDRX subscribers cannot be paged (UE is out of the paging window). |
| NB-IoT Subscribers | Displays information about NB-IoT subscribers |
| Attached Calls | Displays the number of attached calls for NB-IoT subscribers. |
| Connected Calls | Displays the number of connected calls for NB-IoT subscribers. |
| Idle Calls | Displays the number of idle calls for NB-IoT subscribers. |
| Attach Without PDN Subscribers | Displays information about the Attach without PDN subscribers. |
| Attached Calls | Displays the number of attached calls for Attach without PDN subscribers. |

| Field | Description |
|--------------------------------|--|
| Connected Calls | Displays the number of connected calls for Attach without PDN subscribers. |
| Idle Calls | Displays the number of idle calls for Attach without PDN subscribers. |
| Low Power Subscribers: | |
| NB-IoT Attached Calls | The current total number of attached low power subscribers which are operating in NB-IoT. |
| EUTRAN Attached Calls | The current total number of attached low power subscribers which are operating in E-UTRAN. |
| CE-mode-B Capable Subscribers: | |
| Attached Calls | Displays the number of attached calls by CE Mode-B subscribers. |
| Connected Calls | Displays the number of connected calls by CE Mode-B subscribers. |
| Idle Calls | Displays the number of idle calls by CE Mode-B subscribers. |

| Field | Description |
|-------------------|---|
| NB-IoT Statistics | <p>Displays the following NB-IoT statistics:</p> <ul style="list-style-type: none"> • Handover Denied • Path Sw Failure • HO Prep Failure • Inter MME Denied (TAU Reject) • Src Peer Node Gn SGSN • Src Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Intra MME Denied (TAU Reject) • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Inter MME Denied (Context Failure) • Tgt Peer Node Gn SGSN • Tgt Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT at Tgt • Inter MME Denied (Forward Relocation Reject) • NB-IoT RAT as Tgt |

| Field | Description |
|-------------------------------|---|
| Attach Without PDN Statistics | <p>Displays the following Attach without PDN statistics:</p> <ul style="list-style-type: none"> • Attach Procedure • Attach Request Rcvd • Attach Accept Sent • Attach Complete Rcvd • Attach Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • Intra MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • Inter MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • TAU Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • PDN Procedure • PDN Conn Req after wopdn • PDN Conn Succ wopdn • Last PDN Del wo Detach • Inter MME Denied (Context Failure) • No WOPDN sup by S3 SGSN • No WOPDN sup by Peer MME • No WOPDN sup by MME |
| S-GW Restoration | |
| Attempted | Indicates the total number of PDNs attempted for S-GW restoration at a service level. |

| Field | Description |
|--------------------------------|--|
| Down | Indicates the total number of PDNs attempted for S-GW restoration at service level due to an S-GW being down. |
| Restart | Total number of PDNs attempted for S-GW restoration at service level due to an S-GW being restarted. |
| UE PDN Restored | |
| Emergency | Indicates the number of emergency PDNs restored during S-GW restoration. |
| IMS | Indicates the number of IMS PDNs restored during S-GW restoration |
| Normal | Indicates the number of normal PDNs restored during S-GW restoration |
| UE PDN Failed | |
| Emergency | Indicates the number of unsuccessful emergency PDNs during S-GW restoration. |
| IMS | Indicates the number of unsuccessful IMS PDNs during S-GW restoration. |
| Normal | Indicates the number of unsuccessful IMS PDNs during S-GW restoration. |
| SGW Restoration Failure | |
| Invalid UE S-GW context | Indicates S-GW restoration procedure failure due to invalid S-GW context. |
| No EPS Bearer Active | Indicates S-GW restoration procedure failure because of unavailable EPC bearers active for the UE. |
| S-GW Selection Failure | Indicates S-GW restoration procedure failure due to S-GW selection failure for a UE. |
| S-GW Reloc Proc Failed | Indicates S-GW restoration procedure failure when the procedure responsible to trigger S-GW relocation has failed. |
| Create Session Failure | Indicates S-GW restoration procedure failure when a Create Session Response failure message is received from a peer. |
| Abort | Indicates S-GW restoration procedure failure due to timeout or high priority procedure. |
| Decor Statistics | |
| Attached Calls | Indicates the number of MME sessions attached that have an associated UE usage type. |

| Field | Description |
|----------------------|---|
| Initial Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| Rerouted Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN. |
| UE-Usage-Type Source | |
| HSS | Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC. |
| UE Context | Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record. |
| Peer MME | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover. |

| Field | Description |
|---|---|
| Peer SGSN | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover. |
| Config | Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration. |
| eNodeB | Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute. |
| GUTI Reallocation Cmd due to UE-Usage-Type Change | |
| Attempted | Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME). |
| Success | Tracks the number of successful GUTI Reallocation procedures. |
| Failures | Tracks the number of GUTI Reallocation procedure failures. |
| Handover from service area | |
| DCN | Indicates the total number of inbound handovers from the service area where DCN is supported. |
| Non DCN | Indicates the total number of inbound handovers from the service area where DCN is not supported. |
| Explicit AIR | |
| Attach | Indicates the number of explicit AIR messages during Attach. |
| Inbound relocation | Indicates the number of explicit AIR messages during inbound relocation. |
| Inbound relocation using TAU procedure | Indicates the number of explicit AIR messages during inbound relocation using TAU. |
| ISDR UE-Usage-Type Change | Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS. |
| MMEGI Selection | |
| DNS | Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching). |
| Local | Indicates the total number of times MMEGI is selected from local configuration. |

| Field | Description |
|--------------------------|--|
| Failure | Indicates the total number of times MMEGI is selected from failure. |
| Node Selection | |
| S-GW DNS: Common | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type. This counter increments only when the DNS RR with UE usage type is absent. |
| S-GW DNS: Dedicated | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is present. |
| SGW Local Config: Common | Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type. |
| PGW DNS: Common | Indicates the number of times PGW DNS selection procedures were performed with DNS RR <i>excluding</i> UE usage type. This counter increments only when the DNS RR with UE usage type is <i>absent</i> . |
| PGW DNS: Dedicated | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR <i>including</i> UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is <i>present</i> . |
| PGW Local Config: Common | Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address without considering the UE usage type. |
| MME DNS: Common | Indicates the number of times MME DNS selection procedures were performed with DNS RR <i>excluding</i> UE usage type. This counter increments only when the DNS RR with UE usage type is <i>absent</i> . |
| MME DNS: Dedicated | Indicates the number of times MME DNS selection procedures were performed with DNS RR <i>including</i> UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is <i>present</i> . |
| MME Local Config: Common | Indicates the number of times MME selection procedures were performed with locally configured MME address without considering the UE usage type. |

| Field | Description |
|---------------------------------------|--|
| SGSN DNS: Common | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR <i>excluding</i> UE usage type. This counter increments only when the DNS RR with UE usage type is <i>absent</i> . |
| SGSN DNS: Dedicated | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR <i>including</i> UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is <i>present</i> . |
| SGSN Local Config: Common | Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address without considering the UE usage type. |
| Dual Connectivity with NR Statistics: | |
| Attach Procedure | |
| Attach Request Rcvd | Indicates the number of Attach Requests received with UE advertising DCNR support. |
| Attach Acc DCNR allowed | Indicates the number of Attach Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in Attach Accept). |
| Attach Acc DCNR denied | Indicates the number of Attach Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in Attach Accept). |
| Attach Reject Sent | Indicates the number of Attach Reject messages sent by MME whose corresponding Attach Request messages have DCNR support capability. |
| Attach Complete Rcvd | Indicates the number of Attach Complete messages received by MME whose corresponding Attach Request messages have DCNR support capability. |
| Intra MME TAU Procedure | |
| TAU Request Rcvd | Indicates the number of TAU Request messages received for Intra-MME TAU procedure with UE advertising DCNR support. |
| TAU Accept DCNR allowed | Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Intra-MME TAU procedure. |
| TAU Accept DCNR denied | Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Intra-MME TAU procedure. |

| Field | Description |
|---------------------------------------|--|
| TAU Complete Rcvd | Indicates the number of TAU Complete messages received by the MME whose corresponding Intra-MME TAU Requests have DCNR support capability. |
| Inter MME TAU Procedure | |
| TAU Request Rcvd | Indicates the number of TAU Request messages received for Inter-MME TAU procedure with UE advertising DCNR support. |
| TAU Accept DCNR allowed | Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Inter-MME TAU procedure. |
| TAU Accept DCNR denied | Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Inter-MME TAU procedure. |
| TAU Reject Sent | Indicates the number of TAU Reject messages sent by the MME whose corresponding Inter-MME TAU Requests have DCNR support capability. |
| TAU Complete Rcvd | Indicates the number of TAU Complete messages received by MME whose corresponding Inter-MME TAU Request have DCNR support capability. |
| Dual Connectivity with NR Subscribers | |
| Attached Calls | Indicates the number of DCNR supported UEs attached with the MME. |
| Connected Calls | Indicates the number of DCNR supported UEs in connected mode at MME. |
| Idle Calls | Indicates the number of DCNR supported UEs in idle mode at MME. |
| Node Selection | |
| SGW DNS: | |
| Common | Indicates the number of times S-GW DNS selection procedures are performed with DNS RR excluding the NR network capability. |
| NR Capable | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including the NR network capability. |
| SGW Local Config: | |
| Common | Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the NR network capability. |

| Field | Description |
|-------------------|---|
| PGW DNS: | |
| Common | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding the NR network capability. |
| NR Capable | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including the NR network capability. |
| PGW Local Config: | |
| Common | Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the NR network capability. |

show mme-service statistics decor

Table 403: show mme-service statistics decor Command Output Descriptions

| Field | Description |
|-------------------|---|
| Decor Statistics: | |
| Attached Calls | Indicates the number of MME sessions attached that have an associated UE usage type. |
| Initial Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN. |

| Field | Description |
|---|---|
| Rejects | Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| Rerouted Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN. |
| UE-Usage-Type Source | |
| HSS | Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC. |
| UE Context | Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record. |
| Peer MME | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover. |
| Peer SGSN | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover. |
| Config | Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration. |
| eNodeB | Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute. |
| GUTI Reallocation Cmd due to UE-Usage-Type Change | |
| Attempted | Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME). |
| Success | Tracks the number of successful GUTI Reallocation procedures. |

| Field | Description |
|--|---|
| Failures | Tracks the number of GUTI Reallocation procedure failures. |
| Handover from service area | |
| DCN | Indicates the total number of inbound handovers from the service area where DCN is supported. |
| Non DCN | Indicates the total number of inbound handovers from the service area where DCN is not supported. |
| Explicit AIR | |
| Attach | Indicates the number of explicit AIR messages during Attach. |
| Inbound relocation | Indicates the number of explicit AIR messages during inbound relocation. |
| Inbound relocation using TAU procedure | Indicates the number of explicit AIR messages during inbound relocation using TAU. |
| ISDR UE-Usage-Type Change | Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS. |
| MMEGI Selection | |
| DNS | Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching). |
| Local | Indicates the total number of times MMEGI is selected from local configuration. |
| Failure | Indicates the total number of times MMEGI is selected from failure. |
| Node Selection | |
| SGW DNS | |
| Common | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| SGW Local Config | |
| Common | Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type. |
| PGW DNS | |

| Field | Description |
|-------------------|---|
| Common | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| PGW Local Config | |
| Common | Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type. |
| MME DNS | |
| Common | Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| MME Local Config | |
| Common | Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type. |
| SGSN DNS | |
| Common | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| SGSN Local Config | |
| Common | Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type. |

show mme-service statistics decor decor-profile <profile_name>

Table 404: show mme-service statistics decor decor-profile <profile_name> Command Output Descriptions

| Field | Description |
|--------------------|---|
| Decor Statistics: | |
| Attached Calls | Indicates the number of MME sessions attached that have an associated UE usage type. |
| Initial Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| Rerouted Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN. |

| Field | Description |
|---|---|
| Rejects | Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN. |
| UE-Usage-Type Source | |
| HSS | Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC. |
| UE Context | Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record. |
| Peer MME | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover. |
| Peer SGSN | Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover. |
| Config | Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration. |
| eNodeB | Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute. |
| GUTI Reallocation Cmd due to UE-Usage-Type Change | |
| Attempted | Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME). |
| Success | Tracks the number of successful GUTI Reallocation procedures. |
| Failures | Tracks the number of GUTI Reallocation procedure failures. |
| Handover from service area | |
| DCN | Indicates the total number of inbound handovers from the service area where DCN is supported. |
| Non DCN | Indicates the total number of inbound handovers from the service area where DCN is not supported. |
| Explicit AIR | |
| Attach | Indicates the number of explicit AIR messages during Attach. |
| Inbound relocation | Indicates the number of explicit AIR messages during inbound relocation. |
| Inbound relocation using TAU procedure | Indicates the number of explicit AIR messages during inbound relocation using TAU. |

| Field | Description |
|---------------------------|---|
| ISDR UE-Usage-Type Change | Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS. |
| MMEGI Selection | |
| DNS | Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching). |
| Local | Indicates the total number of times MMEGI is selected from local configuration. |
| Failure | Indicates the total number of times MMEGI is selected from failure. |
| Node Selection | |
| SGW DNS | |
| Common | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| SGW Local Config | |
| Common | Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type. |
| PGW DNS | |
| Common | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| PGW Local Config | |
| Common | Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type. |
| MME DNS | |
| Common | Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type. |

| Field | Description |
|-------------------|---|
| Dedicated | Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| MME Local Config | |
| Common | Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type. |
| SGSN DNS | |
| Common | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type. |
| Dedicated | Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s). |
| SGSN Local Config | |
| Common | Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type. |

show mme-service statistics paging-profile profile-name <paging_profile_name>

Table 405: show mme-service statistics paging-profile profile-name <paging_profile_name> Command Output Descriptions

| Field | Description |
|--|---|
| Paging Profile Level Statistics: | |
| Profile name | Displays the name of the configured paging profile. |
| Stage-1 / Stage-2 / Stage-3 / Stage-4 / Stage-5: | |
| Attempted | Displays the number of times when the session manager sends paging request to at least 1 MME manager for the stage. |
| Skipped | Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager for the stage. |
| Success | Displays the number of times when the paging procedure has completed successfully while the corresponding paging stage is awaiting UE response. |

| Field | Description |
|---------|---|
| Failure | Displays the number of times when the paging procedure moves to next paging stage and/or paging procedure completes with failure. |

show mme-service statistics recovered-values

Table 406: show mme-service statistics recovered-values Command Output Descriptions

| Field | Description |
|--------------------|---|
| Decor Statistics: | |
| Initial Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| TAU | |
| Accepts | Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN. |
| Reroutes | Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN. |
| Rerouted Requests: | |
| ATTACH | |
| Accepts | Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN. |
| TAU | |

| Field | Description |
|---------|--|
| Accepts | Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN. |
| Rejects | Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN. |

show mme-service statistics tai



Important

For the MME to report these TAI level statistics, you must first issue the MME Service Configuration Mode command: **statistics collection-mode tai**. Only those MME Services which are configured accordingly will provide TAI based statistics.



Caution

Changing this collection mode will restart the MME service and will clear all statistics at the MME service and eNodeB level.

Table 407: show mme-service statistics tai Output Descriptions

| Field | Description |
|----------------------------------|---|
| EMM Statistics | |
| Attach Request: EPS Only | <p>This sub-group displays all EMM Evolved Packet System (EPS) attach request statistics (attempts/successes/failures) for the specified TAIs.</p> <p>This is the sum of all IMSI, IMEI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics.</p> |
| Attach Request: Combined | <p>This sub-group displays all EMM EPS combined attach statistics (attempts, successes, EPS Only successes, and failures) for the specified TAIs.</p> <p>This is the sum of all IMSI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics.</p> <p>"Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.</p> |
| Attach Request: Emergency | <p>This sub-group displays all EMM Emergency Bearer Service attach request statistics (attempts/successes/failures) for the specified TAIs.</p> |

| Field | Description |
|---|---|
| Intra MME TAU Request | This group displays all Intra-MME tracking area update statistics. |
| TA Updating | This sub-group displays all Intra-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "Normal TAU without SGW Relocation" + "TAU with SGW Relocation" statistics. |
| TA/LA Updating | This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Combined TA/LA Updating without SGW Relocation" + "Combined TA/LA Updating with SGW Relocation" statistics. |
| TA Updating with IMSI Attach | This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating with IMSI attach" for the specified TAIs. This is a sum of all "TAU with IMSI attach without SGW Relocation" + "TAU with IMSI attach and SGW Relocation" statistics. |
| Periodic TAU | This sub-group displays all Intra-MME periodic tracking area update statistics (attempts/successes/failures) for the specified TAIs. |
| Inter MME TAU Request | This group displays all Inter-MME tracking area update statistics. |
| TA Updating | This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "EPS Associations by TAU using Foreign GUTI" + "EPS Associations by TAU using P-TMSI" statistics. |
| TA/LA Updating | This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Associations by Combined TAU using Foreign GUTI" + "Associations by Combined TAU using P-TMSI" statistics. |
| Detaches UE Initiated | This group displays all UE-initiated detach statistics (attempts/successes/failures) for the specified TAIs. |
| ECM Statistics | |
| UE Initiated Service Request Event | This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the UE for the specified TAIs. |

| Field | Description |
|---|---|
| NW Initiated Service Request Event | This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the Network for the specified TAIs. |
| Handover Statistics | |
| X2-based handovers | This group displays the all X2-based (intra-MME) handover attempt/success/failure events for the specified TAIs. |
| S1-based handovers | This group displays the all S1-based (Inter-MME) handover attempt/success/failure events for the specified TAIs. |
| EMM Control Messages | |
| Sent | |
| Attach Accept | The total number of EMM Attach Accept messages sent for a specific ECM event for the specified TAIs. |
| Retransmissions | The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event. |
| IMSI Unknown in HSS | The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown. |
| MSC Unreachable | The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available. |
| Network Failure | The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure. |
| CS Domain Not Available | The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available. |
| Congestion | The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion. |
| Attach Reject | The total number of EMM Attach Reject messages sent for the specified TAIs. |
| IMSI Unknown in HSS | The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS". |
| Illegal UE | The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE". |
| Illegal ME | The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME". |
| EPS Not Allowed | The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed". |

| Field | Description |
|-------------------------|--|
| Network Failure | The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure". |
| CSG Not Subscribed | The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG". |
| Decode Failure | The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure". |
| IMEI Not Accepted | The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted". |
| Roaming restricted TA | The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA". |
| PLMN not allowed | The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed". |
| TA not allowed | The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed". |
| No suitable cells in TA | The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA". |
| EPS non-EPS Not Allwd | The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed". |
| No EPS Svc in this PLMN | The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn". |
| ESM Failure | The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event for the specified TAIs. |
| Rejected by PGW/SGW | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW". |
| Authentication Failed | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed". |
| Svc Opt Not Supported | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported". |
| Svc Opt Not Subscribed | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed". |
| Unknown APN | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN". |

| Field | Description |
|-------------------------|--|
| Insufficient Resource | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources". |
| Activation Rejected | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified". |
| Svc Opt Tmp OutofOrder | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order". |
| Protocol Errors | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111. |
| APN Restrict Incomt | The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content". |
| Service Reject | The total number of EMM Service Reject messages sent. |
| UE Identity Unknown | The total number of EMM Service Reject messages sent, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached". |
| No Bearer Active | The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated". |
| CSG Not Subscribed | The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG". |
| Roaming Restricted TA | The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area". |
| No suitable cells in TA | The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area". |
| TA Not Allowed | The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed". |
| TAU Accept Total | The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). Note: If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented. |
| Retransmissions | The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request). |

| Field | Description |
|-------------------------|--|
| IMSI Unknown in HSS | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS". |
| MSC Unreachable | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion". |
| TAU Accept Intra MME | The total number of TAU Accept messages sent for an Intra-MME TAU request. |
| Retransmissions | The total number of TAU Accept messages retransmitted for an Intra-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |
| MSC Unreachable | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion". |
| TAU Accept Inter MME | The total number of TAU Accept messages sent for an Inter-MME TAU request. |
| Retransmissions | The total number of TAU Accept messages retransmitted for an Inter-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |

| Field | Description |
|-------------------------|--|
| MSC Unreachable | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable". |
| Network Failure | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure". |
| CS Domain Not Available | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available". |
| Congestion | The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion". |
| TAU Reject Total | The total number of EMM TAU Reject messages sent. |
| IMSI Unknown in HSS | The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS". |
| Illegal UE | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE". |
| Illegal ME | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted". |
| Decode Failure | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch". |
| No Bearer Active | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network". |

| Field | Description |
|-------------------------|---|
| Implicitly Detached | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed". |
| TA not allowed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG. |
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed. |
| TAU Reject Intra MME | The total number of TAU Reject messages sent for an Intra-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS. |
| Illegal UE | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE". |
| Illegal ME | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted". |

| Field | Description |
|-------------------------|--|
| Decode Failure | The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch". |
| No Bearer Active | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed". |
| TA not allowed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG". |
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed". |
| TAU Reject Inter MME | The total number of TAU Reject messages sent for an Inter-MME TAU request. |
| IMSI Unknown in HSS | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS". |
| Illegal UE | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE". |

| Field | Description |
|-------------------------|---|
| Illegal ME | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME". |
| EPS Not Allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed". |
| Network Failure | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure". |
| IMEI not accepted | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted". |
| Decode Failure | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch". |
| No Bearer Active | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated". |
| UE Identity Unknown | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network". |
| Implicitly Detached | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached". |
| Roaming Restricted TA | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area". |
| PLMN not allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed". |
| TA not allowed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed". |
| No suitable cells in TA | The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area". |
| No EPS Svc in PLMN | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN". |
| CSG Not Subscribed | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG". |

| Field | Description |
|-----------------------|--|
| EPS non-EPS not Allwd | The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed". |



CHAPTER 90

show module

- [show module](#), on page 1629

show module

Table 408: show module Command Output Descriptions

| Field | Description |
|----------------------|---|
| Priority | Displays the module priority number. |
| Version | Displays the version number of the plugin. |
| Loaded | Displays the status of the plugin, if loaded or not (yes/no). |
| Location | Displays the location where the patch is copied. |
| Update/Rollback Time | Displays the timestamp when the plugin was updated or rolled back. |
| Status | Displays the status of plugin installation (success/failed). An error message is displayed if installation fails. |



CHAPTER 91

show mpls

- [show mpls cross-connect](#), on page 1631
- [show mpls ftn](#), on page 1632
- [show mpls ilm](#), on page 1632
- [show mpls ldp bindings](#), on page 1633
- [show mpls ldp discovery](#), on page 1634
- [show mpls ldp neighbor](#), on page 1634
- [show mpls ldp neighbor detail](#), on page 1634
- [show mpls nexthop-label-forwarding-entry](#), on page 1635

show mpls cross-connect

Table 409: show mpls cross-connect Command Output Descriptions

| Field | Description |
|------------------|---|
| Cross connect ix | Displays the table index for the cross-connect. |
| in labelspace | Indicates that all MPLS interfaces will use the platform-wide label space ("0"). |
| in label | Displays the ingress (incoming interface) label for this segment. |
| out-segment ix | Displays the outbound segment index. |
| Owner | Displays the creator of this segment, typically a protocol such as BGP |
| Persistent | Displays whether the tunnel is persistent – Yes or No. |
| Admin Status | Indicates whether the user can administratively disable a peer while still preserving its configuration. Up = Yes, Down = No. |
| Oper Status | Displays the current status of the cross-connect segment – Up or Down. |

show mpls ftn

Table 410: show mpls ftn Command Output Descriptions

| Field | Description |
|---------------|---|
| Prefix/mask | Displays the IP address and mask stored in for this FEC-to-NHLFE table entry. |
| Nhlfe-ix | Displays the index number for the Next-Hop Label Forwarding Entry. |
| opcode | PUSH = Replace the top label with another and then push one or more additional labels onto the label stack SET = Set the next hop label. |
| label/ifindex | Displays the label associated with the interface. |
| nh-addr | Displays the IP address of the next hop. |

show mpls ilm

Table 411: show mpls ilm Command Output Descriptions

| Field | Description |
|---------------------|--|
| Label | Displays the label ID for this entry in the Incoming Label Map table. |
| Opcode | POP = Remove label from packet. CONTEXT-CHANGE = ??? DELIVER = ??? |
| nhlfe-ix/context-id | Displays the Next-Hop Label Forwarding Entry (NHLFE) index or context ID for this entry. |

Table 412: show mpls ilm fec Command Output Descriptions

| Field | Description |
|-------|---|
| Label | Displays the label ID for this entry in the Incoming Label Map table. |
| VRF | Displays the Virtual Routing and Forwarding information for this entry. |
| FEC | Displays the Forward Equivalency Class (FEC) for this entry. |

Table 413: show mpls ilm label Command Output Descriptions

| Field | Description |
|---------------------|---|
| Label | Displays the label ID for this entry in the Incoming Label Map table. |
| Opcode | Displays the Opcode that identifies the specific PDU for this entry. |
| nhlfe-ix/context-id | Displays the NHLFE/ Context ID for this entry. |

Table 414: show mpls ilm verbose Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| In-segment entry with in label: | Displays the label ID for this entry in the Incoming Label Map table. |
| id: | Displays the Opcode that identifies the specific PDU for this entry. |
| row status: | Displays the Next-Hop Label Forwarding Entry/ Context ID for this entry. |
| Owner: | Ownership of the management plane. |
| # of pops: | Number of pops (TTL) |
| Index: | Index number |
| FEC: | Forward Equivalency Class |

show mpls ldp bindings

Table 415: show mpls ldp bindings Command Output Descriptions

| Field | Description |
|-----------------|--|
| Prefix | Displays the IP address and mask for a particular destination. |
| LPD ID | LDP identifier (IP address). |
| Label | Displays the label associated with this entry. |
| Nexthop | Displays the IP address of the next hop. |
| Egress_if_index | Displays the interface index for egress messages. |

show mpls ldp discovery

Table 416: show mpls ldp discovery Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Peer LDP ID | LDP ID of the peer router. |
| Hold Time (seconds) | Period of time (in seconds) a discovered LDP neighbor is remembered without receipt of an LDP hello message from the neighbor. |
| Proposed Local/Peer (seconds) | Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time. |
| Remaining (seconds) | Time remaining time before the hello timer expires. |

show mpls ldp neighbor

Table 417: show mpls ldp neighbor Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Peer LDP ID | LDP ID of the peer router. |
| State | Specifies the state of the LDP session. |
| Hold Time (seconds) | Period of time (in seconds) a discovered LDP neighbor is remembered without receipt of an LDP hello message from the neighbor. |
| Proposed Local/Peer (seconds) | Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time. |
| Remaining (seconds) | Time remaining time before the hello timer expires. |

show mpls ldp neighbor detail

Table 418: show mpls ldp neighbor detail Command Output Descriptions

| Field | Description |
|----------------------|--|
| Local LDP Identifier | LDP identifier(IP address) for the local router. |
| Peer LDP ID | LDP ID of the peer router. |

| Field | Description |
|--------------------------------|--|
| Transport Address | Specifies the named IP address as the transport address in the LDP discovery hello messages. |
| State | Specifies the state of the LDP session. |
| Role | Specifies ACTIVE or PASSIVE role for the LSR. |
| Uptime | Specifies the length of time the LDP session has existed. |
| Keepalive Negotiated Hold Time | Indicates the time that an LDP session is to be maintained with an LDP peer without receiving LDP traffic or an LDP keepalive message from the peer. |
| Proposed Local/Peer | Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time. |
| Remaining Keepalive hold time | Time remaining time before the keepalive timer expires. |
| Address advertised | Identifies the neighbor with this IP address. |

show mpls nexthop-label-forwarding-entry

Table 419: show mpls nexthop-label-forwarding-entry Command Output Descriptions

| Field | Description |
|---------------|---|
| Nhlfe-ix | Displays the index number for the Next-Hop Label Forwarding Entry. |
| Opcode | PUSH = Replace the top label with another and then push one or more additional labels onto the label stack SET = Set the next hop label. |
| label/ifindex | Displays the label associated with the interface. |
| nh-addr | Displays the IP address of the next hop. |



CHAPTER 92

show multicast-sessions

This chapter includes the **show multicast-sessions** command output tables.

- [show multicast-sessions all](#), on page 1638
- [show multicast-sessions full all](#), on page 1639

show multicast-sessions all

Table 420: show multicast-sessions all Command Output Descriptions

| Field | Description |
|--------|---|
| vvvvv | <p>Displays service and session state information. This column provides a code consisting of three characters.</p> <p>From left-to-right, the first character represents the Session Type that the subscriber is using. The possible session types are:</p> <ul style="list-style-type: none"> • B: BCMCS • M: MBMS Multicast • R: MBMS Broadcast <p>From left-to-right, the second character represents the Framing Type. The possible framing types are:</p> <ul style="list-style-type: none"> • H: HDLC Like • S: Segment Based • x: Not Applicable <p>From left-to-right, the third character represents the Flow Type. The possible flow types are:</p> <ul style="list-style-type: none"> • F: Flow • P: Program • u: Unknown <p>From left-to-right, the fourth character represents the Call State of the session. The possible call states are:</p> <ul style="list-style-type: none"> • C: Connected • c: Connecting • D: Disconnecting • u: Unknown <p>From left-to-right, the fifth character represents the Link Status of the session. The possible idle states are:</p> <ul style="list-style-type: none"> • A: Online/Active • D: Dormant/Idle |
| CALLID | Displays the subscriber's call identification (callid) number. |

| Field | Description |
|------------|---|
| FLOW ID | Displays the flow identification for multicast service session. |
| MCAST ADDR | Displays the IP address of Broadcast Multicast service center. |
| APN/PORT | Displays the APN name or port number through which the multicast services is provided. |
| PEER ADDR | Displays the IP address of Access Gateway to which the subscriber is attached. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

show multicast-sessions full all

Table 421: show multicast-sessions full all Command Output Descriptions

| Field | Description |
|----------------|---|
| Flow Id | Hex value indicating the Flow ID. |
| state | Indicates the status of session. The possible status are: <ul style="list-style-type: none"> • Connected • Connecting • Disconnecting • Unknown |
| Access Type | Indicates the access type of broadcast-multicast service. Possible values are: <ul style="list-style-type: none"> • mbms-bearer: access through MBMS bearer context • mbms-ue: access through MBMS UE context |
| Flow ID Type | Indicates the Flow ID type. |
| callid | Displays the call identification number (callid). |
| connect time | Displays the time of connection starts. |
| call duration | Specifies total duration of call session in hh:mm:ss format |
| idle time | Displays the amount of time that the multicast session has been idle either in an active or dormant state. |
| idle time left | Shows the amount of idle time left before timeout. |

| Field | Description |
|-------------------------|--|
| session time left | How much session time is left for the specified multicast session. |
| Multicast ip address | The IP address of the interface in the session. |
| peer address | The IP address of the peer in the session. |
| source context | Specifies the name of a configured source context from which the session was initiated. |
| destination context | Specifies the name of a configured destination context through which the subscribers are provided access to the packet data network. |
| output pkts | Indicates the number of packets transmitted. |
| output bytes | Indicates the number of bytes transmitted. |
| outputs pkts dropped | Indicates the number of packets that were dropped while receiving data for this multicast session. |
| pk rate to peer (bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. |
| pk rate to peer (pps) | The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. |
| ave rate to peer (bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. |
| ave rate to peer (pps) | The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. |
| sust rate to peer (bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. |
| sust rate to peer (pps) | The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. |



CHAPTER 93

show network-overload-protection

This chapter describes the output of the **show network-overload-protection** command variants.

- [show network-overload-protection mme configuration, on page 1641](#)

show network-overload-protection mme configuration

Table 422: show network-overload-protection mme configuration Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| MME message rate control | |
| S1 paging per eNodeB | Displays the configured S1 paging rate limit applicable to all eNodeBs connected all MME services. S1 Paging requests to an eNodeB will be rate limited at this threshold value. |
| EGTP path failure ECM-Idle | Displays the configured UE deactivation pacing rate for MME S11/S10/S3 interfaces (any EGTPC service with interface type "interface-mme") for UEs in ECM Idle state. |
| EGTP path failure ECM-Connected | Displays the configured UE deactivation pacing rate for MME S11/S10/S3 interfaces (any EGTPC service with interface type "interface-mme") for UEs in ECM Connected state. |



CHAPTER 94

show npu

This chapter describes the output of the **show npu** command.

- [show npu tm queue](#), on page 1643
- [show npu tm statistics](#), on page 1643
- [show npu utilization table](#), on page 1644

show npu tm queue

Table 423: show npu tm queue Command Output Descriptions (ASR 5500 only)

| Field | Description |
|---------------------------------------|---|
| PORT | Interface port identified by Slot/Port |
| COS | Class of Service (COS0 to COS7) as mapped to 6-bit DSCP value via Global Configuration mode qos ip-dscp-iphb-mapping dscp command. |
| Current Queue Depth (256B Buffers) | Displays queue depth globally and for each COS in units of 256-byte buffers. |

show npu tm statistics

Table 424: show npu tm statistics Command Output Descriptions (ASR 5500 only)

| Field | Description |
|-------------|--|
| PORT | Interface port identified by Slot/Port |
| Pri | Displays Priority as COS0 to COS7. |
| TX Frames | Number of transmitted frames. |
| WRED Frames | Number of Weighted Random Early Detection (WRED) discarded frames. |

| Field | Description |
|------------|---------------------------------|
| WRED Bytes | Number of WRED discarded bytes. |

show npu utilization table

Table 425: show npu utilization table Command Output Descriptions for ASR 5500 and ASR 5000

| Field | Description |
|-------|--|
| npu | Identifies NPU location as slot/CPU/NPU. |
| now | Displays percentage of NPU utilization occurring now. |
| 5min | Displays percentage of NPU utilization over the past 5 minutes. |
| 15min | Displays percentage of NPU utilization over the past 15 minutes. |

Table 426: show npu utilization table Command Output Descriptions for VPC

| Field | Description |
|-------|---|
| lcore | Identifies IFTASK core location as slot/CPU/core. |
| now | Displays percentage of IFTASK utilization occurring now. |
| 5min | Displays percentage of IFTASK utilization over the past 5 minutes. |
| 15min | Displays percentage of IFTASK utilization over the past 15 minutes. |



CHAPTER 95

show ntp

This chapter describes the output of the **show ntp** command.

- [show ntp status, on page 1645](#)

show ntp status

Table 427: show ntp status Command Output Descriptions

| Field | Description |
|------------------|---|
| system peer | The current synchronization source. |
| system peer mode | The mode of the association between the system and the synchronization source. The association can operate in one of the following modes as defined in RFC 1305: <ul style="list-style-type: none">• symmetric active• symmetric passive• client server• broadcast |
| leap indicator | The two-bit code that will be used to indicate the insertion of a leap second in the NTP timescale. |
| stratum | The quality level of the system clock. |
| precision | A signed integer that indicates the precision of the system clock. |
| root distance | The round-trip packet delay to the primary reference source. The delay is measured in seconds. |
| root dispersion | The maximum error relative to the primary reference source. The error is measured in seconds. |
| reference ID | The code that identifies the current synchronization source. |
| reference time | The local time that the system was last updated using NTP. |

| Field | Description |
|----------------|--|
| system flags | <p>Indicates various communication parameters between the system and the server. The possible flags are as follows:</p> <p>auth: Enables the server to synchronize with unconfigured peers only if the peer has been correctly authenticated using either public key or private key cryptography.bclient: Enables the server to listen for a message from a broadcast or multicast server, as in the multicast client command with default address.calibrate: Enables the calibrate feature for reference clocks.kernel: Enables the kernel time discipline, if available.monitor: Enables the monitoring facility.ntp: Enables time and frequency discipline. In effect, this switch opens and closes the feedback loop, which is useful for testing.pps: Enables the pulse-per-second (PPS) signal when frequency and time is disciplined by the precision time kernel modifications.stats: Enables the statistics facility.</p> |
| jitter | The maximum amount of fluctuation within the synchronization source due to random noise. |
| stability | The stability of the clocking source in parts per million (ppm). |
| broadcastdelay | The round-trip delay for broadcast messages in seconds. |
| authdelay | The round-trip delay for authentication messages in seconds. |



CHAPTER 96

show nw-reachability

- [show nw-reachability server all](#), on page 1647

show nw-reachability server all

Table 428: show nw-reachability server Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| Server | The name that was configured for this server in the current context. |
| remote-addr | The IP address to which ping packets are sent in order to determine network reachability. |
| local-addr | The IP address that is used as the source address of ping packets sent to the reachability server. |
| state | The state of the network reachability server. Either Up or Down. Up: The server is responding to ping packets. Down: The server is not responding to ping packets. |
| Total Network Reachability Servers: | The total number of network reachability servers that are configured in the current context. |
| Up: | The number of network reachability servers that are responding. |



CHAPTER 97

show operator-policy

This chapter describes the output of the **show operator-policy** command.

- [show operator-policy full name, on page 1649](#)

show operator-policy full name

Displays detailed configuration information for a specific operator policy configured on the system. While operator policies can be configured on SGSN, MME, and S-GW products, the information provided below only applies to SGSN.

Table 429: show operator-policy full name Command Output Descriptions

| Field | Description |
|---------------------------|--|
| Operator Policy Name | The name of the operator policy you chose to view. |
| Call Control Profile Name | The name of the call control profile associated with this operator policy (only one call control profile per operator policy) or none-associated if no profile has been associated with this operator policy. |
| Validity | Indicates whether the profile name listed above already exists (Valid) or has not been created yet (Invalid). |
| APN Remap Table Name | The name of the access point name (APN) remap table associated with this operator policy (only one APN remap table per operator policy) or none-associated if no APN remap table has been associated with this operator policy. |
| Validity | Indicates whether the APN remap table name listed above already exists (Valid) or has not been created yet (Invalid). |
| IMEI Range | A range of international mobile equipment identity numbers associated with this operator policy or none-associated if no ranges have been associated with this operator policy. Up to 10 IMEI ranges can be associated with an operator policy. |
| IMEI Profile Name | The name of the IMEI profile associated with the IMEI number range above or none if no profile is associated with this range. |

| Field | Description |
|------------------|--|
| Include/Exclude | Indicates whether the IMEI range is associated with an IMEI profile (Include) or not associated with any IMEI profile (Exclude). |
| APN Associations | If no APN parameters are associated with this operator policy, this entry appears with the value none-associated . |
| APN NI | |
| APN Profile Name | The name of the APN profile associated with the APN network identifier show above. |
| Validity | Indicates whether the APN profile name listed above already exists (Valid) or has not been created yet (Invalid). |
| APN OI | |
| APN Profile Name | The name of the APN profile associated with the APN operator identifier show above. |
| Validity | Indicates whether the APN profile name listed above already exists (Valid) or has not been created yet (Invalid). |
| Default APN | |
| APN Profile Name | The name of the APN profile associated with the default access point name. |
| Validity | Indicates whether the APN profile name listed above already exists (Valid) or has not been created yet (Invalid). |



CHAPTER 98

show orbem

This chapter describes the output of the **show orbem** command.

- [show orbem client id](#), on page 1651
- [show orbem status](#), on page 1651
- [show orbem session table](#), on page 1653

show orbem client id

Table 430: show orbem client id Command Output Descriptions

| Field | Description |
|-----------------------|---|
| Application Server ID | The name of the ORBEM client as configured by the client command in the ORBEM configuration mode. |
| State | The status of the ORBEM client as "Enabled" or "Disabled". This indicates whether or not the system is manageable by the external Web Element Manager server: enabled indicates that it can be managed, disabled indicates that it is unmanageable. If the status is "Disabled", it can be enabled by executing the activate client id command in the ORBEM Configuration Mode. |
| Privileges | The management capabilities of the client as "FCAPS" (Fault, Configuration, Accounting, Performance, and Security). |

show orbem status

Table 431: show orbem status Command Output Descriptions

| Field | Description |
|---------------|--|
| Service State | Indicates whether the service state of the ORBEM client on the system is enabled (on) or disabled (off). |

| Field | Description |
|--------------------------------|---|
| Management Functions | Indicates which management functions ORBEM is currently allowing. Possible values for this field are: <ul style="list-style-type: none"> • Fault • Configuration • Accounting • Performance • Security |
| IOP URL | The universal resource locator (URL) of the system interface over which the Inter-ORB Protocol (IOP) will communicate. |
| SSL Port | The Secure Socket Layer Inter-ORB Protocol (SIOP) TCP port that will be used by the ORB server (that runs on the system) to communicate with the client. |
| TCP port | The Internet Inter-ORB Protocol (IIOP) Transport Control Protocol (TCP) port that will be used by the ORB server (that runs on the system) to communicate with the client. This is only used if IIOP transport is needed in addition to SIOP. |
| Session Timeout | The amount of time an ORBEM client-session can be open and remain idle before ORBEM terminates the session. This value is a global value that is applied to all configured ORBEM clients. |
| Max Login Attempts | The maximum number of times a client can attempt to login before ORBEM de-activates the client id. |
| IIOP Transport | Indicates whether the Internet Inter-ORB Protocol (IIOP) transport is enabled (on) or disabled (off). |
| Notification | Indicates whether the CORBA event notification service on the system is enabled (on) or disabled (off). |
| Number of Current Sessions | The number of ORBEM sessions that currently exist. |
| Number of Event Channels Open | The number of ORBEM event channels that are currently open. |
| Number of Operations Completed | The number of ORBEM operations that have been completed. |
| Number of Events Processed | The number of ORBEM events that have been processed. |
| Avg Operation Processing time | The average processing time in seconds of recent ORBEM events. |
| (last 1000) | The average processing time in seconds of the last 1000 ORBEM events. |

show orbem session table

Table 432: show orbem session table Command Output Descriptions

| Field | Description |
|--------------------|--|
| Session ID | The identification number for the ORBEM session. This is a number used within the system to reference the session. |
| Application Server | The server that the ORBEM session is established with by the client id that was configured for the server. |
| IP-Address | The IP address associated with the ORBEM session. |
| Notify Status | The status of the notification associated with the ORBEM session. |
| Context Name | The name of the context on the system that is facilitating the ORBEM configuration. |
| Last transaction | The date and time of the last transaction between the system and the application server. |



CHAPTER 99

show pcc-af

This chapter describes the output of the **show pcc-af** command.

- [show pcc-af service all](#), on page 1655
- [show pcc-af service statistics](#), on page 1656

show pcc-af service all

Table 433: show pcc-af service all Command Output Description

| Variables | Description |
|------------------------|--|
| Service Name | The name of the PCC-AF service for which statistics are collected or displayed. |
| Context | The name of the context in which PCC-AF service is configured. |
| Service State | Indicates the state of PCC-AF service. |
| Diameter | This group indicates the Diameter endpoint configuration information for Rx interface. |
| Origin | Indicates the name of the Diameter origin endpoint configured for PCC-AF service. |
| Dictionary | Indicates the name of the Diameter dictionary configured for Rx interface in PCC-AF service. By default it is "Standard" dictionary. |
| Associated PCC-Service | Indicates the name of the PCC-Service associated with PCC-AF service. |
| Max Charging Sessions | Indicates the maximum number of charging sessions allowed in this PCC-AF service instance. By default it is 10000. |
| Newcall Policy | Indicates the new call policy configured to manage the congestion control on a PCC-AF service. |

show pcc-af service statistics

Table 434: show pcc-af service statistics Command Output Description

| Variables | Description |
|-----------------------|---|
| Service Name | The name of the PCC-AF service for which statistics are collected or displayed. |
| Inbound Messages | Indicates the total number of Rx messages received. |
| AAR Messages | Indicates the total number of Rx AAR messages received. |
| STR Messages | Indicates the total number of Rx STR messages received. |
| RAR Messages | Indicates the total number of Rx RAR request received. |
| ASR Messages | Indicates the total number of Rx ASR request received. |
| Outbound Messages | Indicates the total number of Rx messages sent. |
| Accepted AAR Messages | Indicates the total number of Rx AAR-Accepted messages sent. |
| Accepted STR Messages | Indicates the total number of Rx STR-Accepted messages sent. |
| RAA Messages | Indicates the total number of Rx RAA messages sent. |
| ASA Messages | Indicates the total number of Rx ASA sent. |
| Unknown Messages | Indicates the total number of unknown type of Rx messages received. |



CHAPTER 100

show pcc-policy

This chapter describes the output of the **show pcc-policy** command.

- [show pcc-policy service all](#), on page 1657
- [show pcc-policy service statistics](#), on page 1659
- [show pcc-policy session full all](#), on page 1668

show pcc-policy service all

Table 435: show pcc-policy service all Command Output Description

| Field | Description |
|-----------------------|--|
| Service name | Indicates the name of the PCC-Policy service instance for which counters are displayed. |
| Context name | Indicates the name of the context in which the PCC-Policy service instance is configured and running. |
| Service State | Displays the state of PCC-Policy service instance on an IPCF node. Possible states are: <ul style="list-style-type: none">• Initial• Connected• Disconnected |
| Diameter | This group displays information of Diameter configuration parameters configured in this PCC-Policy service instance. |
| Origin | Indicates the name of the Diameter origin host configured in this PCC-Policy service instance. |
| Dictionary | Indicates the Diameter dictionary configured and used for Diameter session (Gx) in this PCC-Policy service instance. |
| Associate PCC-Service | Indicates the name of the PCC service which is associated with this PCC-Policy service instance. |

| Field | Description |
|-----------------------|---|
| Max Policy Sessions | Indicates the maximum limit of policy (Gx) sessions allowed in this PCC-Policy service instance. |
| Newcall Policy | Indicates the action configured when new calls arrived after reaching a threshold limit in this PCC-Policy service instance to manage the congestion control. If configured possible actions are: <ul style="list-style-type: none"> • drop • reject |
| GPRS-Access-BCM | Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in GPRS network. If configured possible modes are: <ul style="list-style-type: none"> • as-requested: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over Gx interface on IPCF node. This is the default mode. • ue-nw: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over Gx interface on IPCF node. • ue-only: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over Gx interface on IPCF node. |
| eHRPD-Access-BCM | Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in eHRPD network. If configured possible modes are: <ul style="list-style-type: none"> • as-requested: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over Gxa interface on IPCF node. This is the default mode. • ue-nw: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over Gxa interface on IPCF node. • ue-only: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over Gxa interface on IPCF node. |
| Subscriber Binding ID | Indicateges the subscriber binding identifier used by bindmux for binding subscriber session to PCC-Policy service instance.If configured possible binding identifiers are: <ul style="list-style-type: none"> • IMSI • MSISDN • NAI • SIP-URI |

| Field | Description |
|--------------------------------|---|
| Subscription-ID Absence Action | Indicatges the action configured for PCC Policy when CCR-I message is received by IPCF/PCRF without a valid Subscription id (IMSI, NAT, E164 etc.). Possible actions are: <ul style="list-style-type: none"> • Continue • Reject |

show pcc-policy service statistics

Table 436: show pcc-policy service statistics Command Output Description

| Field | Description |
|---------------------|---|
| Total Services | Indicates the total number of PCC-Policy services for which counters are displayed. |
| Messages Statistics | This group displays the summary statistics of messages in a PCC Policy service instance. |
| Total Messages Recv | Indicates total number of inbound messages received (CCR + RAA). |
| Total Messages sent | Indicates total number of outbound messages sent (CCA + RAR). |
| Total CCR | Indicates total number of known (I/U/T) and unknown CCR received. |
| CCR-Initial | Indicates total number of CCR-I messages received. |
| CCR-Updates | Indicates total number of CCR-U messages received. |
| CCR-Terminate | Indicates total number of CCR-T messages received.. |
| Unknown CCR | Indicates total number of CCR messages received with type not determined. |
| Total CCA | Indicates total number of known (I/U/T) and unknown CCA sent.. |
| CCA-Initial | Indicates total number of CCA-I messages sent. |
| CCA-Updates | Indicates total number of CCA-U messages sent. |
| CCA-Terminate | Indicates total number of CCA-T messages sent. |
| Unknown CCA | Indicates total number of CCA messages sent as response to CCR with type not determined.. |
| CCA with Success | Indicates total number of CCA messages sent with Result-Code as DIAMETER_SUCCESS(2001). |

| Field | Description |
|-------------------------|---|
| CCA-I with Success | Indicates total number of CCA-I messages sent with Result-Code as DIAMETER_SUCCESS(2001). |
| CCA-U with Success | Indicates total number of CCA-U messages sent with Result-Code as DIAMETER_SUCCESS(2001). |
| CCA-T with Success | Indicates total number of CCA-T messages sent with Result-Code as DIAMETER_SUCCESS(2001). |
| CCA with Failures | Indicates total number of CCA messages rejected. |
| CCA-I with Failures | Indicates total number of CCA-I messages rejected. |
| CCA-U with Failures | Indicates total number of CCA-U messages rejected. |
| CCA-T with Failures | Indicates total number of CCA-T messages rejected. |
| Total RAA | Indicates total RAA messages received. |
| Total RAR | Indicates total RAR messages sent. |
| RAA with Success | Indicates total RAA messages with Result-Code or Experimental-Result-Code as SUCCESS.. |
| RAA with Failure | Indicates total RAA messages with Result-Code or Experimental-Result-Code depicting FAILURE.. |
| RAA without Result | Indicates total RAA messages with both Result-Code or Experimental-Result-Code absent.. |
| Unexpected RAA | Indicates total RAA messages for the non-existing sessions. |
| RAA parse Success | Indicates total RAA messages with parsing SUCCESS.. |
| RAA parse Failure | Indicates total RAA messages with parsing FAILURE. |
| Reauth probes | Indicates total RAA messages with reauthorization triggers for subscriber session due to expiry idle timeout timer. |
| RAR for Sess Release | Indicates total RAR message with Session Release-Cause. |
| Unspecified | Indicates total RAR message with Session Release-Cause AVP as UNSPECIFIED (0). |
| UE-subscription-Reason | Indicates total RAR message with Session Release-Cause AVP as UE_SUBSCRIPTION_CHANGED (1). |
| Insuff Server Resources | Indicates total RAR message with Session Release-Cause AVP as INSUFFICIENT_SERVER_RESOURCES (2). |
| Total RAR Timeouts | Indicates total RAR messages for which no RAA response was received from PCEF. |

| Field | Description |
|--------------------------|--|
| Update RAR Timeouts | Indicates total Timed-out RAR messages which were sent by PCRF for session updates (e.g. RAR with new / modified PCC rules / QoS). |
| Release RAR Timeouts | Indicates total Timed-out RAR messages which were sent by PCRF for session termination (RAR with Session-Release-Cause AVP). |
| Session-Level Statistics | This group displays the session level statistics of messages in a PCC Policy service instance. |
| Current Sessions | Indicates the session counter which keeps track of existing sessions under this PCC-Policy service. |
| Total Session Created | Indicates cumulative number of sessions created at the PCC-Policy service. |
| Total Session Updates | Indicates cumulative number of sessions updates at the PCC-Policy service. This will include both PCRF-initiated and PCEF initiated updates. |
| PCEF-Initiated | Indicates cumulative number of PCEF-initiated sessions updates at the PCC-Policy service. This will include session updates through CCR-U message. |
| PCRF-Initiated | Indicates cumulative number of PCRF-initiated sessions updates at the PCC-Policy service. This will include session updates through RAR. |
| Total Session Deleted | Indicates cumulative number of session deletion at the PCC-Policy service. |
| PCEF-Initiated | Indicates cumulative number of PCEF-initiated session terminations at the PCC-Policy service initiated through CCR-T message. |
| PCRF-Initiated | Indicates cumulative number of PCRF-initiated session termination at the PCC-Policy service initiated through RAR messages with Session-Release-Cause AVP. |
| Peer Down Initiated | Indicates cumulative number of sessions terminations due to peer disconnect at the PCC-Policy service.. |
| Initial Reject | Indicates cumulative number of sessions terminations at the PCC-Policy service initiated through CCR-I rejection. |
| Idle Timeout | Indicates the idle session timeout duration set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. |

| Field | Description |
|-------------------------|--|
| Setup Timeout | Indicates IPCF setup timeout duration set on a system for setup timer. Possible range of duration is 1 to 120 in seconds. By default Setup timeout value is 60 seconds. Special value of 0 indicates that timer is disabled. |
| Long-duration Timeout | Indicates the long duration idle session timeout set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. |
| Failure Statistics | This group displays the statistics of various failure reasons in a PCC Policy service instance. |
| Missng CCR-Type | Indicates total number of CCR messages with mandatory CC-Request-Type AVP missing. |
| Unexpected CCR-I | Indicates total number of CCR-I message for existing session. |
| Unexpected CCR-U | Indicates total number of CCR-U message for non-existing session. |
| Unexpected CCR-T | Indicates total number of CCR-T message for non-existing session. |
| Missng CCR-Num | Indicates total number of CCR messages with mandatory CC-Request-Number missing. |
| Out-of-Order CCR | Indicates total number of CCR messages with out-of-order CC-Request-Number. |
| PCC-Sess Create Fail | Indicates total number of PCC Session Creation Failure after receiving CCR-I due to miscellaneous reasons. |
| Policy-Sess Create Fail | Indicates total number of PCC Policy Session Creation Failure after receiving CCR-I due to miscellaneous reasons. |
| PCC-Sess Lookup Fail | Indicates total number of PCC Session Creation Failure after receiving CCR-U/T due to miscellaneous reasons. |
| Policy-Sess Lookup Fail | Indicates total number of PCC Policy Session Creation Failure after receiving CCR-U/T due to miscellaneous reasons. |
| Missing Origin-Host | Indicates total number of CCR messages with mandatory Origin-Host AVP missing. |
| Invalid Origin-Host | Indicates total number of CCR messages with mandatory Origin-Host AVP invalid. |
| Missing Origin-Realm | Indicates total number of CCR messages with mandatory Origin-Realm AVP missing. |

| Field | Description |
|-------------------------|--|
| Invalid Origin-Realm | Indicates total number of CCR messages with mandatory Origin-Realm AVP invalid. |
| Missing Dest-Realm | Indicates total number of CCR messages with mandatory Destination-Realm AVP missing. |
| Invalid Dest-Realm | Indicates total number of CCR messages with mandatory Destination-Realm AVP invalid. |
| Unsubscribed Triggers | Indicates total number of Event-Trigger received from PCEF for which PCRF has not subscribed (E.g. RAT_CHANGE received from PCEF even though it is not supplied previously by PCRF). |
| Unknwown Triggers | Indicates total number of Event-Trigger received from PCEF which is undefined for the policy version. (E.g. Defaul-EPS-Bearer-QoS-Change received for R7-Gx). |
| Non-Applicable Triggers | Indicates total number of Event-Trigger received from PCEF which is not applicable for the access-type. (E.g. Defaul-EPS-Bearer-QoS-Change received for R8 GGSN with 3GPP-GPRS access). |
| Missing Trigger-Param | Indicates total number of Event-Trigger received from PCEF without the related parameter (E.g. PCEF sending RAT_CHANGE without the RAT-Type value). |
| Invalid Trigger-Param | Indicates total number of Event-Trigger received from PCEF with invalid related parameter (E.g. PCEF sending RAT_CHANGE by RAT-Type reported is same as previous one). |
| Event-Trigger in CCR-I | Indicates total number of Event-Trigger received from PCEF in CCR-I message. |
| Event-Trigger in CCR-T | Indicates total number of Event-Trigger received from PCEF in CCR-T message. |
| Invalid BCM Request | Indicates total number of failure cases where PCEF requests bearer control mode (BCM) as UE-ONLY by sending Network-Request-Not-Supported in CCR-I. However, operator configured BCM is UE-NW. Thus, BCM is not provisioned and PCRF rejects this CCR. |
| QoS-Auth Fail | Indicates total number of failure when PCRF rejects the CCR in case of QoS-authorization failure in CCR-I message. |
| Invalid Initial Param | Indicates total number of failure when PCRF rejects the CCR with Experimental Result-Code DIAMETER_ERROR_INITIAL_PARAMETERS due to incorrect information in the request. |

| Field | Description |
|-----------------------------|--|
| Invalid AVP Value | Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_INVALID_AVP_VALUE due to incorrect AVP value in the request. |
| Unsupported AVP | Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_AVP_UNSUPPORTED due to incorrect AVP value in the request. |
| Missing AVP | Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_MISSING_AVP due to incorrect AVP value in the request. |
| Session-Linking Failurre | Indicates total number of failure when PCRF rejects the CCR-I with Result-Code DIAMETER_AUTHORIZATION_REJECTED due to Session Linking failure. |
| Unavail Srv Credits | Indicates total number of session failure due to unavailability of enough service credits for PCC-Policy Session creation. |
| Multiple Policy Sess Reject | Indicates total number of session rejection due to no-support for multiple PCC session per subscriber available but attempted by PCEF. |
| Diameter Statistics | This group displays the statistics of various Diameter interface messages in a PCC Policy service instance. |
| App Register Success | Indicates total number of successful diabase registrations at this PCC-Policy service due to service addition. |
| App Register Fail | Indicates total number of failed diabase registrations performed at this PCC-Policy service due to service addition. |
| App Unregister Success | Indicates total number of successful diabase deregistration at this PCC-Policy service due to service removal. |
| App Unregister Fail | Indicates total number of failed diabase deregistration performed at this PCC-Policy service due to service removal. |
| App Reregister Success | Indicates total number of successful diabase re-registrations at this PCC-Policy service due to service modification. |
| App Reregister Fail | Indicates total number of failed diabase registrations performed at this PCC-Policy service due to service modification. |
| Total Msg Create Fail | Indicates total number of failure to create diabase messages for CCA and RAR. |
| CCA Create Fail | Indicates total number of failure to create diabase messages for CCA. |
| RAR Create Fail | Indicates total number of failure to create diabase messages for RAR. |

| Field | Description |
|------------------------------|--|
| Total Msg Encode Fail | Indicates total number of failure to encode diabase message AVP for CCA and RAR. |
| CCA Encode Fail | Indicates total number of failure to encode diabase message AVP for CCA. |
| RAR Encode Fail | Indicates total number of failure to encode diabase message AVP for RAR. |
| Total Msg Send Fail | Indicates total number of failure to send diabase messages for CCA and RAR. |
| CCA Send Fail | Indicates total number of failure to send diabase messages for CCA. |
| RAR Send Fail | Indicates total number of failure to send diabase messages for RAR. |
| Termination Cause Statistics | This group displays the statistics of various causes for session termination in a PCC Policy service instance. |
| Diameter Logout | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_LOGOUT (1). |
| Serv | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_SERVICE_NOT_PROVIDED (2). |
| Bad Answer | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_BAD_ANSWER (3). |
| Administrative | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_ADMINISTRATIVE (4). |
| Link Broken | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_LINK_BROKEN (5). |
| Auth Expired | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_AUTH_EXPIRED (6). |
| User Moved | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_USER_MOVED (7). |
| Session Timeout | Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_SESSION_TIMEOUT (8). |

| Field | Description |
|-------------------------|--|
| Rule Report Statistics | This group displays the statistics of various Rule Reports in a PCC Policy service instance. |
| Total Rules Reports | Indicates total number of rule-reports received for various PCC/QoS rules. |
| Total Install Failures | Indicates total number of rule-reports received for various PCC/QoS rule installation failures. |
| Total Install Success | Indicates total number of rule-reports received for various successful PCC rule installation. |
| Total Credit Exhaustion | Indicates total number of rule-reports received for various PCC rule out-of-credit. |
| Total Credit Reallocs | Indicates total number of rule-reports received for various PCC rule credit reallocation. |
| Unknown Rule-Names | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNKNOWN_RULE_NAME (1). |
| Rating Group Errors | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as RATING_GROUP_ERROR (2). |
| Service-ID Errors | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as SERVICE_IDENTIFIER_ERROR (3). |
| GW-PCEF Malfunctions | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as GW/PCEF_MALFUNCTION (4). |
| Resource Limitations | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as RESOURCES_LIMITATIONS (5). |
| Max-NR-Bearers Reached | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MAX_NR_BEARERS_REACHED (6). |
| Unknown Bearer ID | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNKNOWN_BEARER_ID (7). |
| Missing BearerID | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MISSING_BEARER_ID (8). |

| Field | Description |
|-----------------------------|--|
| Missing Flow-Desc | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MISSING_FLOW_DESCRIPTION (9). |
| Resource Alloc Fail | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as RESOURCE_ALLOCATION_FAILURE (10). |
| QoS Validation Fail | Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNSUCCESSFUL_QOS_VALIDATION (11). |
| Usage Statistics | This group displays the usage statistics in a PCC Policy service instance. |
| Total Usage Thresholds | Indicates total number of usage thresholds supplied to PCEF for various monitoring instances. |
| Rule-Level Thresholds | Indicates total number of PCC-Rule-Level usage thresholds supplied to PCEF for various monitoring instances. |
| Sess-Level Thresholds | Indicates total number of Session-Level usage thresholds supplied to PCEF for various monitoring instances. |
| Rule-Level Report Req | Indicates total number of PCRF initiated PCC-Rule-Level usage report requests supplied to PCEF for various monitoring instances. |
| Sess-Level Report Req | Indicates total number of PCRF initiated session-level usage report requests supplied to PCEF for various monitoring instances. |
| Rule-Level Disable Requests | Indicates total number of PCRF initiated PCC-Rule-level usage report disable requests supplied to PCEF for various monitoring instances. |
| Sess-Level Disable Req | Indicates total number of PCRF initiated session-level usage report disable requests supplied to PCEF for various monitoring instances. |
| SPR Statistics | This group displays the statistics related to SSC/SPR instances and procedures associated with a PCC Policy service instance. |
| Profile Register | Indicates total messages sent to SPR for Subscriber Profile Registration. |
| Profile Deregister | Indicates total messages sent to SPR for Subscriber Profile Deregistration. |
| Usage Register | Indicates total messages sent to SPR for Subscriber Usage Registration. |
| Usage Deregister | Indicates total messages sent to SPR for Subscriber Usage Deregistration. |

| Field | Description |
|------------------|---|
| Usage Updates | Indicates total messages sent to SPR for Subscriber Usage Update. |
| RAR-CCR | Indicates total RAR and CCR message collisions. |
| Update RAR-CCR-U | Indicates total message collision between CCR-U message from PCEF and RAR message sent by PCRF for policy update. |
| Update RAR-CCR-T | Indicate total message collision between CCR-T message from PCEF and RAR message sent by PCRF for policy update. |
| Update RAR-CCR-U | Indicates total message collision between CCR-U message from PCEF and RAR message sent by PCRF for session release. |
| Update RAR-CCR-T | Indicates total message collision between CCR-T message from PCEF and RAR message sent by PCRF for session release. |

show pcc-policy session full all

Table 437: show pcc-policy session full all Command Output Description

| Field | Description |
|--------------|---|
| Callid | Indicates the identity number of the IP-CAN call registered on the PCC-Policy service instance for which counters are displayed. |
| Session ID | Indicates the identity number of the IP-CAN session active on the PCC-Policy service instance for which counters are displayed. |
| Peer ID | Indicates the identity number (IP address) of the PCEF node used in IP-CAN session within the PCC-Policy service instance for which counters are displayed. |
| Service Name | Indicates the name of the PCC-Policy service instance for which counters are displayed. |
| Service Type | Indicates the type of IP-CAN session on the PCC-Policy service instance for which counters are displayed. |
| IMSI | Indicates the IMSI number of subscriber used by bindmux for binding subscriber session to PCC-Policy service instance. |
| MSISDN | Indicates the MSISDN number of subscriber used by bindmux for binding subscriber session to PCC-Policy service instance. |
| APN Name | Indicates the name of the APN used by IP-CAN session to serve subscriber in the PCC-Policy service instance. |
| IMEI | Indicates the IMEI number of UE used by bindmux for binding subscriber session to PCC-Policy service instance. |

| Field | Description |
|----------------|---|
| Session State | Indicates the state of the IP-CAN session on PCC-Policy service instance. Possible states are: <ul style="list-style-type: none"> • Initial • Connected • Disconnected |
| Framed-IPv4 | Indicates the IPv4 address, if used, for frame route relay prefix in IP-CAN session on PCC-Policy service instance. |
| Framed-IPv6 | Indicates the IPv6 address, if used, for frame route relay prefix in IP-CAN session on PCC-Policy service instance. |
| RAT-Type | Indicates the Radio Access Type used for this IP-CAN session. Possible RAT types are: <ul style="list-style-type: none"> • UTRAN • E-UTRAN • GPRS |
| SGSN_MCC | Indicates the Mobile Country Code used in IP-CAN session on PCC-Policy service instance. |
| SGSN_MNC | Indicates the Mobile Network Code used in IP-CAN session on PCC-Policy service instance. |
| IP-CAN-Type | Indicates the type of IP-CAN session active on PCC-Policy service instance. |
| BCM | Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in GPRS/eHRPD network. If configured possible modes are: <ul style="list-style-type: none"> • as-requested: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over Gx interface on IPCF node. This is the default mode. • ue-nw: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over Gx interface on IPCF node. • ue-only: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over Gx interface on IPCF node. |
| ANC-Address | Indicates the IP address of the Access Network Controller node of the IP-CAN session on the PCC-Policy service instance for which counters are displayed. |
| ANC-Identifier | Indicates the identity number of the Access Network Controller node used in IP-CAN session within the PCC-Policy service instance for which counters are displayed. |

| Field | Description |
|---------------|---|
| Event-Trigger | Indicates the event triggers configured/activated for IP-CAN session within the PCC-Policy service instance for which counters are displayed. |



CHAPTER 101

show pcc-service

This chapter describes the output of the **show pcc-service** command.

- [show pcc-service all](#), on page 1671
- [show pcc-service session all](#), on page 1673
- [show pcc-service session full](#), on page 1674
- [show pcc-service statistics](#), on page 1677

show pcc-service all

Table 438: show pcc-service all Command Output Description

| Field | Description |
|---------------------------|---|
| Service name | Indicates the name of the PCC service for which counters are displayed. |
| Context name | Indicates the name of the context in which the PCC service is configured and running. |
| Charging-Method | Indicates the charging methods communicated to PCEF at command level for this PCC service. Possible methods are: <ul style="list-style-type: none">• None• Offline• Online• Offline and Online By default "None" is the enabled option. |
| Online Charging-Server(s) | This group displays information of online charging servers (primary and secondary) configured and used in this PCC service. |
| Primary | Indicates the name of the primary online charging server configured and used in this PCC service. |
| Secondary | Indicates the name of the secondary online charging server configured and used in this PCC service. |

| Field | Description |
|---|--|
| Offline Charging-Server(s) | This group displays information of offline charging servers (primary and secondary) configured and used in this PCC service. |
| Primary | Indicates the name of the primary offline charging server configured and used in this PCC service. |
| Secondary | Indicates the name of the secondary offline charging server configured and used in this PCC service. |
| Subscriber-Profile Refresh Interval (sec) | Indicates the interval duration in seconds after which Subscriber profile is refreshed from SSC/SPR in a PCC service. |
| Multiple PCEF Per Subscriber | Indicates status of support for more than one Gx-session for single subscriber session coming from multiple PCEF in this PCC service instance. By default this feature is enabled. |
| Setup Timeout | Indicates IPCF setup timeout duration set on a system for setup timer. Possible range of duration is 1 to 120 in seconds. By default Setup timeout value is 60 seconds. Special value of 0 indicates that timer is disabled. |
| Idle Timeout | Indicates the idle session timeout duration set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. It also displays the action configured for initiation when idle timer expires. Possible actions are: <ul style="list-style-type: none"> • None • Reauthorization of session. • Disconnection of session if reauthorization of session fails. |
| Long-duration Timeout | Indicates the long duration idle session timeout set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. It also displays the action configured for initiation when long duration timeout timer expires. Possible actions are: <ul style="list-style-type: none"> • None • Detection of idle session and sending of SNMP traps or CORBA notification. • Detection of idle session and then disconnect the session after sending of SNMP traps or CORBA notification |

show pcc-service session all

Table 439: show pcc-service session all Command Output Descriptions

| Field | Description |
|------------------------------|--|
| vvvv | <p>Displays service and session state information. This column provides a code consisting of four characters.</p> <p>From left-to-right, the first character represents the Session State that the subscriber is using. The possible call types are:</p> <ul style="list-style-type: none"> • c: Closed • C: Connected • D: Disconnected • o: Open • S: Waiting on SPR • r: Waiting on DREG • s: Waiting on STR • e: Waiting on deallocate • t: Waiting on CCR-T • A: Waiting on ASR • R: Waiting on RAR <p>From left-to-right, the second character represents the Gx Session Count. It indicates the total number of Gx sessions between PCEF and IPCF active in this session.</p> <p>From left-to-right, the third character represents the Gy Session Count. It indicates the total number of Gy sessions active in this session.</p> <p>From left-to-right, the second character represents the Gxa Session Count. It indicates the total number of Gx sessions between PCEF (eHRPD) and IPCF active in this session.</p> |
| CALLID | Indicates the IP-CAN session subscriber's call identification number. |
| IMSI/MSID | Indicates the IP-CAN session subscriber's IMSI/MSID number used in this session in bindmux . |
| User Name | Indicates the user name used in IP-CAN session to identify the subscriber in this session in bindmux . This is typically used in IP-CAN session between PDSN and IPCF/PCRF over Gx interface. |
| Total number of PCC sessions | The total number of PCC sessions on chassis including all modes. |

show pcc-service session full

Table 440: show pcc-service session full Command Output Descriptions

| Field | Description |
|------------------------|--|
| CALLID | Indicates the IP-CAN session subscriber's call identification number. |
| IMSI/MSID | Indicates the IP-CAN session subscriber's IMSI/MSID number used in this session in bindmux . |
| User Name | Indicates the user name used in IP-CAN session to identify the subscriber in this session in bindmux . This is typically used in IP-CAN session between PDSN and IPCF/PCRF over Gx interface. |
| Profile Name | Indicates the name of the subscriber used in IP-CAN session to provide QoS parameters. |
| Default-EPS-Bearer | Indicates whether default EPS bearer is provisioned for subscriber in IP-CAN session for which information is displayed |
| APN-AMBR | Indicates whether an Aggregate Maximum Bit Rate (AMBR) associated with APN is provisioned for subscriber in IP-CAN session for which information is displayed. |
| Authorized QCIs | This group displays the parameters for authorized Quality Class Identifiers (QCIs) used in IP-CAN session for which information is displayed. |
| QCI | Indicates the Quality Class Identifier (QCI) authorized and used in IP-CAN session for which information is displayed. |
| Uplink | Indicates the uplink bit rate provisioned in authorized QCI for IP-CAN session for which information is displayed. |
| Downlink | Indicates the downlink bit rate provisioned in authorized QCI for IP-CAN session for which information is displayed. |
| Total Predefined Rules | Indicates the total predefined Rules applicable for IP-CAN session for which information is displayed. |
| Predefined Rules | Indicates the name of the predefined Rules, if applicable, for IP-CAN session for which information is displayed. |

| Field | Description |
|------------------------|---|
| Rule Status | Indicates the status of the predefined Rules, if applicable, for IP-CAN session for which information is displayed. Possible status are: <ul style="list-style-type: none"> • Active • Inactive • Temporarily Active |
| Rule Failure Code | Indicates the predefined Rule failure codes, if applicable, for IP-CAN session for which information is displayed. Possible failure codes are: <ul style="list-style-type: none"> • Out-of-credit • Reallocation-of-credit • Unknown rule name • Invalid Rating Group • Invalid Service Identifier • GW/PCEF Malfunction • Limited Resources • Max No. of Bearers Reached • Unknown Bearer Id • Missing Bearer Id • Missing Flow Description • Resource Allocation Failure • QoS Validation Failure |
| Rule Activation Time | Indicates the time configured to activate predefined Rule for IP-CAN session for which information is displayed. |
| Rule deactivation Time | Indicates the time configured to deactivate predefined Rule for IP-CAN session for which information is displayed. |
| Total Dynamic Rules | Indicates the total dynamic Rules applicable for IP-CAN session for which information is displayed. |
| Dynamic Rules | Indicates the name of the dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |
| Rating-Group | Indicates the rating group configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |
| Precedence | Indicates the precedence configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |
| Gate Status | Indicates the status of the Gate configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |
| QoS Profile | Indicates the QoS profile configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |

| Field | Description |
|------------------------------|---|
| Flow | Indicates the total number of flows applicable for IP-CAN session for which information is displayed. |
| AF Information | Indicates the Application Function information for dynamic Rules, if applicable, for IP-CAN session for which information is displayed. |
| Rule Status | Indicates the status of the predefined Rules, if applicable, for IP-CAN session for which information is displayed. Possible status are: <ul style="list-style-type: none"> • Active • Inactive • Temporarily Active |
| Rule Failure Code | Indicates the predefined Rule failure codes, if applicable, for IP-CAN session for which information is displayed. Possible failure codes are: <ul style="list-style-type: none"> • Out-of-credit • Reallocation-of-credit • Unknown rule name • Invalid Rating Group • Invalid Service Identifier • GW/PCEF Malfunction • Limited Resources • Max No. of Bearers Reached • Unknown Bearer Id • Missing Bearer Id • Missing Flow Description • Resource Allocation Failure • QoS Validation Failure |
| Rule Activation Time | Indicates the time configured to activate dynamic Rule for IP-CAN session for which information is displayed. |
| Rule deactivation Time | Indicates the time configured to deactivate dynamic Rule for IP-CAN session for which information is displayed. |
| Quota Information | This group displays the Quota related information applicable for IP-CAN session for which information is displayed. |
| Usage Monitor Information | Indicates the Usage Monitor status applicable for IP-CAN session for which information is displayed. |
| Total number of PCC sessions | The total number of PCC sessions on chassis including all modes. |

show pcc-service statistics

Table 441: show pcc-service statistics Command Output Description

| Field | Description |
|-----------------------------|--|
| Service name | Indicates the name of the PCC service for which counters are displayed. |
| Total Gx req processed | Indicates the total number of Gx request messages from PCEF processed by PCC-service node. |
| Total Gy req processed | Indicates the total number of Gy request messages from OCS processed by PCC-service node. |
| Total SSC req processed | Indicates the total number of request messages from SSC/SPR processed by PCC-service node. |
| Total Unknown requests | Indicates the total number of unknown type of request messages from network nodes received by PCC-service node. |
| PUR Updates | Indicates the total number of Profile-Update-Request update messages from network nodes received at PCC-service node. |
| SNR Updates | Indicates the total number of Subscribe-Notifications-Request update messages from network nodes received at PCC-service node. |
| PNR Updates | Indicates the total number of Push-Notifications-Request update messages from network nodes received at PCC-service node. |
| Total Profile Hits | Indicates the total number of Subscribe profiles accessed by PCC-service node. |
| Total Profile Miss | Indicates the total number of Subscribe profiles missed by PCC-service node. |
| Total Quota Reports | Indicates the total number of quota reports processed by PCC-service node. |
| Total Unknown rating-groups | Indicates the total number of unknown type of rating groups received by PCC-service node. |
| Total Rules Activated | Indicates the total number of Rules at PCEF activated by PCC-service node. |
| Total Rules Deactivated | Indicates the total number of Rules at PCEF deactivated by PCC-service node. |
| Total Rulebases Activated | Indicates the total number of Rulebases at PCEF activated by PCC-service node. |

| Field | Description |
|-----------------------------|--|
| Total Rulebases Deactivated | Indicates the total number of Rulebases at PCEF deactivated by PCC-service node. |
| Total Rules Installed | Indicates the total number of Rules installed at PCEF by PCC-service node. |
| Total Rules Uninstalled | Indicates the total number of Rules installed at PCEF by PCC-service node. |
| Profile Name | Indicates the name of the subscriber profiles accessed by PCC-service node. |
| Profile Hits | Indicates the total number of hits received by specific subscriber profile at PCC-service node. |
| Eval-Priority Hits | This group displays the statistics of Evaluation Priority hits at PCC-service node. |
| Action Statistics | This group displays the statistics of actions triggered at PCC-service node. |
| Default EPS Bearer Auth | Indicates the total number of authorization action processed for the default EPS bearer authorization on PCC-service node. |
| APN AMBR Auth | Indicates the total number of authorization action processed for the APN associated Aggregate Maximum Bit Rate (AMBR) on PCC-service node. |
| QCI Auth | Indicates the total number of authorization action processed for the Quality Class Indicator (QCI) on PCC-service node. |
| Event-trigger Statistics | This group displays the statistics of event triggers at PCC-service node. |
| SGSN Change | Indicates the total number of "SGSN change" events triggered on PCC-service node. |
| QoS Change | Indicates the total number of "QoS change" events triggered on PCC-service node. |
| RAT Change | Indicates the total number of "RAT (Radio Access Technology) change" events triggered on PCC-service node. |
| TFT Change | Indicates the total number of "TFT (traffic flow template) change" events triggered on PCC-service node. |
| PLMN Change | Indicates the total number of "PLMN change" events triggered on PCC-service node. |
| Loss of flow | Indicates the total number of "Loss of Flow" events triggered on PCC-service node. |

| Field | Description |
|---------------------------|---|
| Recovery of flow | Indicates the total number of "Recovery of Flow" events triggered on PCC-service node. |
| IP-CAN Change | Indicates the total number of "IP-CAN Change" events triggered on PCC-service node. |
| Qos Change Exceeding Auth | Indicates the total number of QoS change event triggers exceeded from authorized limit on PCC-service node. |
| RAI Change | Indicates the total number of "RAI (Routing Area Indicator) Change" events triggered on PCC-service node. |
| User Location Change | Indicates the total number of "User Location Change" events triggered on PCC-service node. |
| Out Of Credit | Indicates the total number of "Out of Credit" events triggered on PCC-service node. |
| Reallocation of Credit | Indicates the total number of "Reallocation of Credit" events triggered on PCC-service node. |
| Revalidation timeout | Indicates the total number of timeout events triggered for "Revalidation" on PCC-service node. |
| IP Address Allocation | Indicates the total number of "IP Address Allocation" events triggered on PCC-service node. |
| IP Address Release | Indicates the total number of "IP Address Release" events triggered on PCC-service node. |
| Def EPS Bearer QoS Change | Indicates the total number of QoS change events triggered for Default EPS bearer on PCC-service node. |
| AN-GW Change | Indicates the total number of "AN-GW (Access Network Gateway)" events triggered on PCC-service node. |
| Successful Resource Alloc | Indicates the total number of "Successful Resource Allocation" events triggered on PCC-service node. |
| Resource Modification Req | Indicates the total number of resource modification request messages received by PCC-service node. |
| PGW Trace Control | Indicates the status of subscriber session trace control reported on PCC-service node for P-GW. |
| UE Timezone Change | Indicates the total number of "UE Timezone Change" events triggered on PCC-service node. |
| Usage Report | Indicates the total number of Usage Reports processed on PCC-service node. |



CHAPTER 102

show pcc-sp-endpoint

This chapter describes the output of the **show pcc-sp-endpoint** command.

- [show pcc-sp-endpoint all](#), on page 1681

show pcc-sp-endpoint all

Table 442: show pcc-sp-endpoint all Command Output Description

| Variables | Description |
|---------------------------|---|
| SP Endpoint Name | The name of the PCC-Sp-Endpoint instance for which statistics are displayed. |
| Context | The name of the context in which PCC-Sp-Endpoint instance is configured. |
| Address | Indicates the local IP address of PCC-Sp-Endpoint instance. |
| Access Type | Indicates the type of access, Diameter or Lightweight Directory Access Protocol (LDAP) used by a PCC-Sp-Endpoint instance for Sp interface procedures. By default it is Diameter. |
| SPR Subscriber Identifier | Indicates the subscriber identifier (imsi / msisdn / nai) used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC. |
| User-Name | Indicates the subscriber user name used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC. |
| Password | Indicates the password used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC. |
| LDAP Dn | Indicates the name of the LDAP Dn used by PCC-Sp-Endpoint instance. |
| Diameter Endpoint | Indicates the name of the Diameter origin endpoint configured for PCC-Sp-Endpoint instance. |

| Variables | Description |
|-------------------------------------|---|
| Profile update notification | Indicates whether profile update notifications is allowed or not for a PCC-Sp-Endpoint instance. |
| Profile-data key data-reference | Indicates the data-reference values used in UDR/SNR message for profile data sent over Sp endpoint when access type is set to Diameter. |
| Profile-data key service-indication | Indicates the service indication values used in UDR/SNR message for profile data sent over Sp endpoint when access type is set to Diameter. |



CHAPTER 103

show pdg-service

This chapter describes the output of the **show pdg-service** command.

- [show pdg-service all, on page 1683](#)
- [show pdg-service statistics, on page 1686](#)

show pdg-service all

Table 443: show pdg-service all Command Output Description

| Field | Description |
|-----------------------------|--|
| Service name | The name of the PDG service. |
| Context name | The name of the context in which the PDG service resides. |
| Bind | Displays the bind status for the PDG service for binding the service to a crypto template. |
| Max sessions | The maximum number of sessions supported by the PDG service. |
| IP address | The IPv4 address of the PDG service. |
| UDP Port | The UDP port number associated with the IP address. |
| Service State | The current state of the PDG service. |
| Crypto-template | The name of the crypto template bound to the FNG service. |
| SSL-template | The name of the SSL template bound to the FNG service. This is a customer-specific field. |
| SGTP Service | The name of the SGTP service bound to the PDG service. |
| SGTP Service context | The name of the context in which the SGTP service was created. |
| Session Setup Timeout (sec) | The maximum time allowed to set up a session in seconds. |

| Field | Description |
|--|---|
| Certificate Selection | The selection method for selecting the certificate to be included in the first IKE-AUTH message. Can be APN-based or crypto template-based. |
| PLMN Id | The PLMN identifiers for the PDG/TTG. |
| Duplicate Session Detection Type | The duplicate session detection type. |
| IP Source Violation - Drop Limit | The drop-limit value, which is the maximum number of allowed IP source violations within the detection period before dropping a call. |
| IP Source Violation - Period | The detection period in seconds for IP source violations. |
| IP Source Violation - Clear On Valid Packet | Displays whether the option to reset the drop-limit counters upon receipt of a properly addressed packet is enabled or disabled. |
| 3gpp qos to dscp Downlink mapping | This group indicates the 3GPP QoS to DSCP downlink mapping information. |
| conversational | Indicates the DSCP configured for conversational type of traffic. |
| streaming | Indicates the DSCP configured for streaming type of traffic. |
| interactive (TP 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1. |
| interactive (TP 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2. |
| interactive (TP 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3. |
| background | Indicates the DSCP configured for background type of traffic. |
| 3GPP qos to dscp Downlink mapping based on Alloc. Prio | This group indicates the 3GPP QoS to DSCP downlink mapping information based on allocation priority. |
| interactive (TP 1, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1. |
| interactive (TP 1, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2. |
| interactive (TP 1, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3. |
| interactive (TP 2, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1. |
| interactive (TP 2, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2. |
| interactive (TP 2, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3. |

| Field | Description |
|--|--|
| interactive (TP 3, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1. |
| interactive (TP 3, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2. |
| interactive (TP 2, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2. |
| 3gpp qos to dscp Uplink mapping (TTG only) | This group indicates the 3GPP QoS to DSCP uplink mapping information. |
| conversational | Indicates the DSCP configured for conversational type of traffic. |
| streaming | Indicates the DSCP configured for streaming type of traffic. |
| interactive (TP 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1. |
| interactive (TP 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2. |
| interactive (TP 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3. |
| background | Indicates the DSCP configured for background type of traffic. |
| 3GPP qos to dscp Uplink mapping based on Alloc. Prio | This group indicates the 3GPP QoS to DSCP downlink mapping information based on allocation priority. |
| interactive (TP 1, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1. |
| interactive (TP 1, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2. |
| interactive (TP 1, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3. |
| interactive (TP 2, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1. |
| interactive (TP 2, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2. |
| interactive (TP 2, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3. |
| interactive (TP 3, Alloc.P 1) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1. |
| interactive (TP 3, Alloc.P 2) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2. |
| interactive (TP 3, Alloc.P 3) | Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3. |

show pdg-service statistics

Table 444: show pdg-service statistics Command Output Description

| Field | Description |
|------------------------------------|--|
| Session Stats | |
| Current sessions total | Total number of sessions in progress including transient sessions. |
| Direct-IP-IPv4 current | Total number of currently active Direct IP IPv4 sessions. |
| TTG-IPv4 current | Total number of currently active TTG IPv4 sessions. |
| Active current | Total number of currently active sessions. |
| Dormant current | Total number of currently dormant sessions. |
| Active IPv4 current | Total number of currently active IPv4 sessions. |
| Active IPv6 current | Total number of currently active IPv6 sessions. |
| Dormant IPv4 current | Total number of currently dormant IPv4 sessions. |
| Dormant IPv6 current | Total number of currently dormant IPv6 sessions. |
| Total Direct-IP IPv4 | Total number of Direct IP IPv4 sessions. |
| Total TTG IPv4 | Total number of TTG IPv4 sessions. |
| Direct-IP IPv4 attempts | Total number of Direct IP IPv4 attempts. |
| Direct-IP IPv4 successes | Total number of Direct IP IPv4 successes. |
| Direct-IP IPv4 failures | Total number of Direct IP IPv4 failures. |
| TTG IPv4 attempts | Total number of TTG IPv4 attempts. |
| TTG IPv4 successes | Total number of TTG IPv4 successes. |
| TTG IPv4 failures | Total number of TTG IPv4 failures. |
| Total setup attempts | Total number of session setup attempts. |
| Total setup success | Total number of successful session attempts. |
| Total Attempts Failed | Total number of failed session attempts. |
| Total disconnected | Total number of sessions released locally and remotely. |
| Disconnect locally | Total number of sessions released locally. |
| Disconnect remotely | Total number of sessions released remotely. |
| Disconnect remotely before connect | Total number of sessions released remotely before connecting. |

| Field | Description |
|--|---|
| Reauthentication Stats | |
| Total reauth attempts | Total number of reauthentication attempts. |
| Total reauth success | Total number of reauthentication successes. |
| Total reauth failure | Total number of reauthentication failures. |
| Session Attempts Failed Disconnect reason | |
| Remote disconnect | Number of session attempts failed before the call is in the CONNECTED state due to a remote disconnect. |
| Admin disconnect | Number of session attempts failed before the call is in the CONNECTED state due to a disconnect by the administrator. |
| Session setup timeout | Number of session attempts failed before the call is in the CONNECTED state because the Session Manager's session setup timer has timed out. |
| No resource | Number of session attempts failed before the call is in the CONNECTED state because the system has run out of resources (flows, memory resources, etc.). |
| Auth failure | Number of session attempts failed before the call is in the CONNECTED state because of an AAA authentication failure. |
| Flow add failure | Number of session attempts failed before the call is in the CONNECTED state because a flow could not be added on the NPU. |
| Invalid dest-context | Number of session attempts failed before the call is in the CONNECTED state because the destination context received from the AAA server is invalid. |
| GTP | Number of session attempts failed before the call is in the CONNECTED state because of a GTP failure. |
| Duplicate request | Number of session attempts failed before the call is in the CONNECTED state because of duplicate requests. |
| Addr assign failure | Number of session attempts failed before the call is in the CONNECTED state because no remote IP address has been assigned. |
| Miscellaneous reasons | Number of session attempts failed because of miscellaneous reasons, including all session setup failures due to SSL failures (for example, handshake failures, ssl-alert, ssl-bad-message), or an unknown APN case in which the TTG is unable to resolve the APN, and all remaining disconnect reasons before the call is in the CONNECTED state. |
| Session Disconnect reason | |

| Field | Description |
|------------------------------|---|
| Remote disconnect | Number of sessions disconnected after the call is in the CONNECTED state because of a remote disconnect. |
| Admin disconnect | Number of sessions disconnected after the call is in the CONNECTED state by the administrator. |
| Idle timeout | Number of sessions disconnected after the call is in the CONNECTED state because the Idle timer has timed out. |
| Absolute timeout | Number of sessions disconnected after the call is in the CONNECTED state because the Absolute timer has timed out. |
| Long duration timeout | Number of sessions disconnected after the call is in the CONNECTED state because the Long Duration timer has timed out. |
| Re-Auth failure | Number of sessions disconnected after the call is in the CONNECTED state because of a re-authentication failure. |
| Source address violation | Number of sessions disconnected after the call is in the CONNECTED state because the source IP address is invalid. |
| GTP | Number of GTP sessions disconnected after the call is in the CONNECTED state. |
| Duplicate request | Number of sessions disconnected after the call is in the CONNECTED state because of duplicate requests. |
| Miscellaneous reasons | Number sessions disconnected after the call is in the CONNECTED state because of miscellaneous reasons. |
| Data Stats | |
| Total Bytes Sent | Total number of bytes sent. |
| Total Packets Sent | Total number of packets sent. |
| Total Bytes Rcvd | Total number of bytes received. |
| Total Packets Rcvd | Total number of packets received. |
| Total Packets Violations | Total number of packet violations. |
| EAP Server Statistics | |
| Total Received | Total number of EAP messages received from the EAP server in pass-through mode. |
| Success Received | Total Number of EAP success messages received from the EAP server in pass-through mode. |
| Challenge Received | Total number of EAP challenge messages received from the EAP server in pass-through mode. |

| Field | Description |
|-------------------------|--|
| Failures Received | Total number of EAP failure messages received from the EAP server in pass-through mode. |
| Total Sent | Total number of EAP messages transmitted to the EAP server in pass-through mode. |
| Initial Requests | Total number of initial EAP messages transmitted to the EAP server in pass-through mode. |
| Requests Forwarded | Total number of EAP requests forwarded to the EAP server in pass-through mode. |
| EAP Mobile Stats | |
| Total Received | Total number of EAP messages received from the UEs in pass-through mode. |
| Discarded | Total number of EAP messages received from the UEs in pass-through mode. |



CHAPTER 104

show pdif-service

This chapter describes the output of the **show pdif-service** command.

- [show pdif-service statistics, on page 1691](#)

show pdif-service statistics

Table 445: show pdif-service statistics Command Output Descriptions

| Field | Description |
|----------------------------|--|
| Session Statistics | |
| Current sessions total | Total number of current sessions. |
| Simple-IPv4 current | Number of current Simple-IPv4 sessions. |
| Mobile-IPv4 current | Number of current Mobile-IPv4 sessions. |
| Proxy-Mobile-IPv4 current | Number of current Proxy-Mobile-IPv4 sessions. |
| Data-Clients | Total number of subscriber sessions originating from data clients. |
| Active current | Total number of currently active sessions. |
| Dormant current | Total number of currently dormant sessions. |
| Active IPv4 current | Total number of currently active IPv4 sessions. |
| Active IPv6 current | Total number of currently active IPv6 sessions. |
| Dormant IPv4 current | Total number of currently dormant IPv4 sessions. |
| Dormant IPv6 current | Total number of currently dormant IPv6 sessions. |
| Total Simple-IP IPv4 | Total number of Simple-IP IPv4 sessions. |
| Total Mobile-IP IPv4 | Total number of Mobile-IP IPv4 sessions. |
| Total Proxy-Mobile-IP IPv4 | Total number of Proxy-Mobile-IP IPv4 sessions. |

| Field | Description |
|---|--|
| Mobile-IP IPv4 attempts | Total number of Mobile-IP IPv4 session attempts. |
| Mobile-IP IPv4 successes | Number of successful Mobile-IP IPv4 session attempts. |
| Mobile-IP IPv4 failures | Number of failed Mobile-IP IPv4 session attempts. |
| Proxy-Mobile-IP IPv4 attempts | Total number of Proxy-Mobile-IP IPv4 session attempts. |
| Proxy-Mobile-IP IPv4 succ | Number of successful Proxy-Mobile-IP IPv4 session attempts. |
| Proxy-Mobile-IP IPv4 fails | Number of failed Proxy-Mobile-IP IPv4 session attempts. |
| Simple-IP-Fallback attempts | Total number of Simple-IP fallback attempts. |
| successes | Number of successful Simple-IP fallback sessions. |
| failures | Number of failed Simple-IP fallback sessions. |
| Simple-IP-Fallback Failure Reasons | |
| No Mobile-IP RRQ Rx | Mobile-IP RRQ request not received. |
| Not allowed | Simple-IP fallback not allowed by configuration. |
| Tagged Pool Address | Address is in a pool and tagged not to allow Simple-IP fallback. |
| Misc | |
| Simple-IP IPv4 attempts | Total number of Simple-IP IPv4 session attempts. |
| Simple-IP IPv4 successes | Number of successful Simple-IP IPv4 attempts. |
| Simple-IP IPv4 failures | Number of failed Simple-IP IPv4 attempts. |
| Total setup attempts | Total number of session setup attempts. |
| Total setup success | Number of successful session setup attempts. |
| Total Attempts Failed | Number of failed session setup attempts. |
| Total disconnected | Total number of disconnected sessions. |
| Disconnected locally | Number of sessions disconnected locally. |
| Disconnected remotely | Number of sessions disconnected remotely. |
| Disconnect remotely before connect | Number of sessions disconnected remotely before the session was fully connected. |
| Session Disconnect Reasons | |
| Remote disconnect ipsec | Number of sessions disconnected because of remote party (mobile) hang-up. |
| Admin disconnect | Number of sessions disconnected by the Admin. |

| Field | Description |
|--|---|
| Idle timeout | Number of sessions disconnected because the Idle timer has timed out. |
| Absolute timeout | Number of sessions disconnected because the Absolute timer has timed out. |
| Long duration timeout | Number of sessions disconnected because the Long Duration timer has timed out. |
| Session setup timeout | Number of sessions disconnected because the Session Setup timer has timed out. |
| No resource | Number of sessions disconnected because the system has run out of resources (flows, memory, etc.). |
| Auth failure | Number of sessions disconnected because of an authentication failure. |
| Flow add failure | Number of sessions disconnected because flow could not be added on NPU. |
| Invalid dest-context | Number of sessions disconnected because the destination context coming from AAA server is invalid. |
| Source address violation | Number of sessions disconnected because the source IP address is invalid. |
| MIP Remote | Number of Mobile-IP sessions disconnected because of remote mobile user hang-up. |
| MIP Local | Number of Mobile-IP sessions disconnected locally. |
| Duplicate Request | Number of sessions disconnected because of a duplicate request when there is already a session with the same NAI. |
| MAC validation failure | Number of sessions disconnected because the HSS cannot validate MAC address from remote user. |
| Addr assign failure | Number of sessions disconnected because no address has been assigned. |
| Miscellaneous reasons | Number of Mobile-IP sessions disconnected for other reasons. |
| MAC Address Validation Statistics | |
| Validation attempted | Total number of MAC address validation attempts. |
| Validation succeeded | Number of successful MAC address validation attempts. |
| Validation failed | Number of failed MAC address validation attempts. |
| MAC Address Validation Successes | |
| MAC Address matches | Number of successful HSS server MAC address matches. |

| Field | Description |
|---|--|
| HSS failure continued | HSS is configured to continue the session after a failure is registered. |
| MAC Address Validation Failure Reasons | |
| Diameter Error | Validation failed because of a problem with the Diameter server. |
| User Unknown | Validation failed because of an unknown user. |
| Malformed MAC Address | Validation failed because of a malformed MAC address from the mobile subscriber. |
| No MAC Address provided | Validation failed because the mobile subscriber does not supply a MAC address. |
| Unauthorized MAC Address | Validation failed because the MAC address is not authorized by the HSS. |
| Sh Interface unavailable | Validation failed because of a problem with the interface to the HSS. |
| Timeout | Validation failed because of a problem with a session setup timeout. |
| Others | Validation failed because of other reasons. |
| Data Stats | |
| Total Bytes Sent | Total number of bytes sent. |
| Total Packets Sent | Total number of packets sent. |
| Total Bytes Rcvd | Total number of bytes received. |
| Total Packets Rcvd | Total number of packets received. |
| Total Pkts Violations | Total number of packets received from UEs and destined for the Internet that do not match any of the configured traffic selectors. |
| EAP Server Statistics | |
| Total Received | Total number of EAP Success+ EAP Challenge + EAP Failures, coming from EAP server. |
| Success Received | Number of EAP successes received. |
| Challenge Received | Number of EAP challenges received. |
| Failures Received | Number of EAP failures received. |
| Discarded | Number of EAP server messages discarded. |
| Total Sent | Total number of EAP server messages sent. |

| Field | Description |
|------------------------------|---|
| Initial Requests | Number of initial requests. |
| Requests Forwarded | Number of requests forwarded. |
| EAP Mobile Statistics | |
| Total Received | Total number of EAP Requests coming from mobile subscriber. |
| Discarded | Number of EAP mobile messages discarded. |



CHAPTER 105

show pgw

This chapter describes the output of the **show pgw** command.

- [show pgw-service all, on page 1697](#)
- [show pgw-service name, on page 1699](#)
- [show pgw-service statistics all, on page 1703](#)

show pgw-service all

Displays configuration information for all P-GW services configured on the system.

Table 446: show pgw-service all Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Service name | The name of the P-GW service configured and running on the system. |
| Service-ID | The system-generated identification number associated with the P-GW service name. |
| Context | The context name where the P-GW service is configured. |
| Status | Indicates whether the P-GW service is started or not. |
| EGTP Service | The eGTP service name configured for use by this service. |
| LMA Service | The LMA service name configured for use by this service. |
| GGSN Service | The GGSN service name associated with this service. |
| IPNE Service | Not supported in this release. |
| S-GW Interface Excluded | Excludes the specified interface. |
| Priority message Excluded: | Indicates if the priority message is specified. The valid values are Yes and No. The default value is No. |
| Session-Delete-Delay Timer | Indicates whether there is a delay in terminating a session. |

| Field | Description |
|-----------------------------------|---|
| Session-Delete-Delay Timeout | Specifies the time (msecs) to retain a session before terminating it. |
| PLMN ID List | The Public Land Mobile Network identifier list associated with this P-GW service. A PLMN contains a Mobile Country Code (MCC) and Mobile Network Code (MNC). Up to five PLMN IDs can be configured for each P-GW service. |
| Newcall Policy | The newcall policy configured for this P-GW service. Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session |
| dns-client Context Name | The context where the DNS client is configured and used by this service. |
| gx-li context | Refer to the <i>Lawful Intercept Configuration Guide</i> . |
| gx-li transport | Refer to the <i>Lawful Intercept Configuration Guide</i> . |
| QCI-QoS Mapping Table Name | The QoS Class Index to QoS mapping table configured for use with this service. |
| Authorize | Enables/disables subscriber session authorization with HSS over S6b Diameter interface. |
| S6b IPv6 Reporting | Specifies whether IPv6 address reporting through AAR towards the S6b interface is enabled or disabled. |
| Duplicate Subscriber Addr Request | Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session. |
| Fqdn-name | The name of Fully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between P-GW and 3GPP AAA/HSS. |
| SAEGW service | Specifies whether P-GW service is part of SAEGW service. |
| EGTP Cause Code Handling | Specifies whether eGTP cause handling has been enabled for this P-GW service. |
| Temp Failure | Specifies whether eGTP cause handling for temporary failure (cause code 110) has been enabled for this P-GW service. |
| Retry Timeout | Specifies the time to wait (in seconds) before reattempting Create Bearer Request (CBR)/Modify Bearer Request (MBR)/Update Bearer Request (UBR) when the P-GW receives a temporary failure response from a peer. |
| Maximum Retry | Specifies the maximum number of retries to attempt. The P-GW discards CBR/MBR/UBR after the maximum number of retries are exceeded. |

| Field | Description |
|--|--|
| EGTP Modify bearer res with CHARGING-ID | Indicates whether Modify Bearer Response message with Charging-ID is enabled or disabled. |
| EGTP Modify bearer res with CHARGING-FQDN or CHARGING-GW-ADDRESS | Indicates whether Modify Bearer Response message with Charging FQDN or Charging Gateway address is enabled or disabled. |
| EGTP Modify bearer res with MSISDN | Indicates whether Modify Bearer Response message with MSISDN is enabled or disabled. |
| EGTP SGW Restoration Handling | |
| Session Hold Timer | Displays if the session Hold Timer is valid or not. |
| Timeout | Displays the Configured Session Hold Timer timeout value in seconds. |
| EGTP Modify bearer cmd negotiate qos | Displays the configuration of the egtp modify-bearer-cmd-negotiate-qos command, either Enabled (P-GW accepts new QoS value from modify bearer command while PCRF is unreachable; or Disabled (Default, P-GW ignores the new QoS value in the modify bearer command and uses stored QoS value from PCRF). |
| EGTP Bit Rate in Rounded Kpbs | Enable/Disable rounded down Kbps value of Bit Rate on GTP interface. |
| EGTP Suppress Update Bearer Request (no bitrate change) | Indicates if the UBR Suppression feature is enabled or disabled. |
| P-CSCF Restoration solution | Indicates the type of mechanism being used for P-CSCF failure detection. Can be either HSS-based (Private Extn) or HSS-Based MME-Triggered (Rel12). |
| P-CSCF Restoration supported for Emergency PDNs | Indicates whether P-CSCF Restoration is enabled for Emergency PDNs. Important This functionality is license dependent. For more information, contact your Cisco account representative. |
| Re-Auth After s6b Triggered P-CSCF Restoration | Indicates whether Re-Auth after S6b triggered P-CSCF Restoration of WLAN is enabled. Important This functionality is license dependent. For more information, contact your Cisco account representative. |

show pgw-service name

Displays configuration information for all P-GW services configured on the system.

Table 447: show pgw-service name Command Output Descriptions

| Field | Description |
|------------------------------|---|
| Service name | The name of the P-GW service configured and running on the system. |
| Service-ID | The system-generated identification number associated with the P-GW service name. |
| Context | The context name where the P-GW service is configured. |
| Status | Indicates whether the P-GW service is started or not. |
| EGTP Service | The eGTP service name configured for use by this service. |
| LMA Service | The LMA service name configured for use by this service. |
| GGSN Service | The GGSN service name associated with this service. |
| IPNE Service | Not supported in this release. |
| Peer Map | |
| Session-Delete-Delay Timer | Indicates whether there is a delay in terminating a session. |
| Session-Delete-Delay Timeout | Specifies the time (msecs) to retain a session before terminating it. |
| PLMN ID List | The Public Land Mobile Network identifier list associated with this P-GW service. A PLMN contains a Mobile Country Code (MCC) and Mobile Network Code (MNC). Up to five PLMN IDs can be configured for each P-GW service. |
| Newcall Policy | The newcall policy configured for this P-GW service. Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session |
| dns-client Context Name | The context where the DNS client is configured and used by this service. |
| gx-li context | Refer to the <i>Lawful Intercept Configuration Guide</i> . |
| gx-li transport | Refer to the <i>Lawful Intercept Configuration Guide</i> . |
| Internal QoS Application | The QoS application configured for use with this service. |
| QCI-QoS Mapping Table Name | The QoS Class Index to QoS mapping table configured for use with this service. |
| Authorize | Enables/disables subscriber session authorization with HSS over S6b Diameter interface. |
| Setup Timeout | Specifies the maximum amount of time the P-GW service allows for the setting up of PDP contexts. |

| Field | Description |
|---|--|
| Message Timestamp Drift | Specifies the drift time configuration to take care of NTP drift issues. |
| S6b IPv6 Reporting | Specifies if the IPv6 address reporting through AAR towards the S6b interface is enabled or disabled. |
| Retain MDN | Enables MDN/MSISDN value to be retained as negotiated during the call setup (retrieved from S6b interface or Create Session Request). |
| Duplicate Subscriber Addr Request | Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session. |
| Duplicate Subscriber Addr Request IPv6 | Specifies whether the P-GW will accept or reject requests for an IPv6 IP address if the address is already in use by another session. |
| Qos Negotiation Profile Rel8 for Gy interface | |
| DCNR | Enables 5G New radio Functionality for subscriber session in the PGW service. |
| Fqdn-name | The name of Fully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between P-GW and 3GPP AAA/HSS. |
| SAEGW service | Specifies whether P-GW service is part of SAEGW service. |
| EGTP Overcharging Protection | |
| EGTP Cause Code Handling | Specifies whether eGTP cause handling has been enabled for this P-GW service |
| Temp Failure | Specifies whether eGTP cause handling for temporary failure (cause code 110) has been enabled for this P-GW service. |
| Retry Timeout | Specifies the time to wait (in seconds) before reattempting Create Bearer Request (CBR)/Modify Bearer Request (MBR)/Update Bearer Request (UBR) when the P-GW receives a temporary failure response from a peer. |
| Maximum Retry | Specifies the maximum number of retries to attempt. The P-GW discards CBR/MBR/UBR after the maximum number of retries are exceeded. |
| EGTP SGW Restoration Handling | Specifies if the eGTP S-GW restoration handling is enabled or not. |
| Session Hold Timer | Displays if the session Hold Timer is valid or not. |
| Timeout | Displays the Configured Session Hold Timer timeout value in seconds. |

| Field | Description |
|--|--|
| EGTP Modify bearer cmd negotiate qos | Displays the configuration of the egtp modify-bearer-cmd-negotiate-qos command, either Enabled (P-GW accepts new QoS value from modify bearer command while PCRF is unreachable; or Disabled (Default, P-GW ignores the new QoS value in the modify bearer command and uses stored QoS value from PCRF). |
| EGTP GnGp Modify bearer res with APN-AMBR | |
| EGTP Modify bearer res with CHARGING-ID | Indicates whether Modify Bearer Response message with Charging-ID is enabled or disabled. |
| EGTP Modify bearer res with CHARGING-FQDN or CHARGING-GW-ADDRESS | Indicates whether Modify Bearer Response message with Charging FQDN or Charging Gateway address is enabled or disabled. |
| EGTP Modify bearer res with MSISDN | Indicates whether Modify Bearer Response message with MSISDN is enabled or disabled. |
| EGTP Modify Bearer Response with Context Not Found cause if IMEI/IMEISV mismatch | |
| EGTP Bit Rate in Rounded Down Kbps | Enable/Disable rounded down Kbps value of Bit Rate on GTP interface. |
| EGTP Suppress Update Bearer Request (no bitrate change) | Indicates if the UBR Suppression feature is enabled or disabled. |
| EGTP Create Session Response with APN-AMBR IE | |
| GTP-C Load Control Profile | Indicates the GTP-C load control profile. |
| GTP-C Overload Control Profile | Indicates the GTP-C overload control profile. |
| P-CSCF Restoration solution | Indicates the type of mechanism being used for P-CSCF failure detection. Can be either HSS-based (Private Extn) or HSS-Based MME-Triggered (Rel12). |
| P-CSCF Restoration supported for Emergency PDNs | Indicates whether P-CSCF Restoration is enabled for Emergency PDNs. Note This functionality is license dependent. For more information, contact your Cisco account representative. |
| Re-Auth After s6b Triggered P-CSCF Restoration | Indicates whether Re-Auth after S6b triggered P-CSCF Restoration of WLAN is enabled. Note This functionality is license dependent. For more information, contact your Cisco account representative. |
| GTP-C Cause Code Mapping (Gx Failure) | |
| eMPS Profile Name | Indicates the eMPS Profile name used to define attributes of an eMPS session. |

| Field | Description |
|---------------------------------|---|
| GTPC Outgoing Throttling | Specifies if outgoing throttling has been enabled, which indicates the number of messages that were removed from the queue (due to any collision, or max retransmission expired). |
| RLF Template Name | Specifies the template name for RLF for throttling support. |
| Throttling override | |
| Throttling override Policy | Configures the Throttling Override Policy that can be used at the GGSN/P-GW nodes to selectively bypass throttling for a configured message type or for all messages in emergency call or priority call or call for the configured APN. |
| GTPC Incoming Throttling Params | Specifies if the incoming throttling of GTPC has been configured. It includes following parameters. |
| Message Rate (per sec) | Indicates the number of messages per second. Default: 20000 |
| Delay Tolerance (secs) | Indicates the delay tolerance in seconds. Default: 5 |
| Queue Size | Indicates the queue size. Default: 10000 |
| S-GW Interface Excluded | Excludes the specified interface. |
| Priority message Excluded: | Indicates if the priority message is specified. The valid values are Yes and No. The default value is No. |

show pgw-service statistics all

The following command output applies to release 14.0 and higher.

Table 448: show pgw-service statistics all Command Output Descriptions

| Field | Description |
|---------------------------|--|
| VPN Name | The name of the context in which the P-GW service is configured. |
| Subscribers Total: | |
| Active | The total number of active subscribers. |
| Total S6b Assume Positive | The total number of subscribers in the assume positive state. |
| PDNs Total: | |
| Active | The total number of active PDN sessions. |
| Setup | The total number of setup PDN sessions. |
| Released | The total number of released PDN sessions. |

| Field | Description |
|----------------------------------|---|
| Rejected | The total number of rejected PDN sessions. |
| PDNs By PDN-Type: | |
| IPv4 PDNs: | |
| Active | The total number of active PDN sessions using IPv4. |
| Setup | The total number of setup PDN sessions using IPv4. |
| Released | The total number of released PDN sessions using IPv4. |
| IPv6 PDNs: | |
| Active | The total number of active PDN sessions using IPv6. |
| Setup | The total number of setup PDN sessions using IPv6. |
| Released | The total number of released PDN sessions using IPv6. |
| IPv4v6 PDNs: | |
| Active | The total number of active PDN sessions using IPv4v6. |
| Setup | The total number of setup PDN sessions using IPv4v6. |
| Released | The total number of released PDN sessions using IPv4v6. |
| PDNs By PLMN-Type: | |
| Home Subscriber PDNs: | |
| Active | Subscriber PLMN Statistics - Home subscribers sessions active |
| Setup | Subscriber PLMN Statistics - Home subscribers sessions setup |
| Released | Subscriber PLMN Statistics - Home subscribers sessions released |
| Visiting Subscriber PDNs: | |
| Active | Subscriber PLMN Statistics - Visiting subscribers sessions active |
| Setup | Subscriber PLMN Statistics - Visiting subscribers sessions setup |
| Released | Subscriber PLMN Statistics - Visiting subscribers sessions released |
| Roaming Subscriber PDNs: | |
| Active | Subscriber PLMN Statistics - Roaming subscribers sessions active |
| Setup | Subscriber PLMN Statistics - Roaming subscribers sessions setup |
| Released | Subscriber PLMN Statistics - Roaming subscribers sessions released |

| Field | Description |
|---------------------------------|--|
| PDNs By Emergency-Type: | |
| Emergency PDNs: | |
| Active | Total Active Emergency PDNs |
| Authentic IMSI | Total Active Emergency PDNs (Auth-IMSI) |
| Un-Authentic IMSI | Total Active Emergency PDNs (Unauth-IMSI) |
| Only IMEI | Total Active Emergency PDNs (Only IMEI) |
| Setup | Total Emergency PDNs setup |
| Authentic IMSI | Total Emergency PDNs (Auth-IMSI) setup |
| Un-Authentic IMSI | Total Emergency PDNs (Unauth-IMSI) setup |
| Only IMEI | Total Emergency PDNs (Only IMEI) setup |
| Rejected | Total Emergency PDNs rejected |
| Non-Emergency PDNs: | |
| Active | The total number of active non-emergency PDNs. |
| Setup | The total number of setup non-emergency PDNs. |
| PDNs Rejected By Reason: | |
| No Resource | The total number of PDNs rejected - No Resource. |
| Missing or unknown APN | The total number of PDNs rejected - Missing or unknown APN. |
| APN sel-Mode mismatch | The total number of PDNs rejected - APN selection-mode mismatch. |
| PDN-Type not supported | The total number of PDNs rejected - Preferred PDN-Type not supported. |
| APN restr violation | The total number of PDNs rejected - APN restriction violation . |
| Subs auth failed | The total number of PDNs rejected - Subscriber authentication failed. |
| static addr not allow | The total number of PDNs rejected - Subscriber static address not allowed. |
| static addr not alloc | The total number of PDNs rejected - Subscriber static address not allocated. |
| Dynamic addr not alloc | The total number of PDNs rejected - Dynamic address not allocated. |

| Field | Description |
|------------------------------------|--|
| static addr not present | The total number of PDNs rejected - Subscriber static address not present. |
| Invalid QCI Value | The total number of PDNs rejected - Due to the receipt of invalid QoS Class Identifiers (QCIs). |
| Apn-Denied No Subscription | The total number of subscriber sessions disconnected due to denial of APN as requested APN was not subscribed to subscriber. |
| System Failure | The total number of PDNs to ease debugging. |
| PDNs Released By Reason: | |
| Network initiated release | The total number of PDNs released due to a network-initiated release. |
| Admin disconnect | The total number of PDNs released due to an administrative disconnect. |
| GTP-U error ind | The total number of PDNs released due to a GTP-U error indication. |
| SGW path failure | The total number of PDNs released due to an S-GW path failure. |
| Local fallback timeout | The total number of PDNs released due to the local policy timeout when Gx is not reachable. |
| UE P-CSCF Reselect not supported | The total number of UEs released due to P-CSCF Re-selection not being supported. |
| MME initiated release | The total number of PDNs released due to an MME initiated release. |
| S4 SGSN initiated release | The total number of PDNs released due to an S4 SGSN initiated release |
| Beareres Total: | |
| Active | The total number of active bearers. |
| Setup | The total number of bearers setup. |
| Released | The total number of number of bearers released. |
| Rejected | The total number of rejected bearers. |
| Beareres By Emergency-Type: | |
| Emergency Beareres: | |
| Active | The total number of Active Emergency bearers. |
| Authentic IMSI | The total number of Active Emergency bearers (Authentic-IMSI). |

| Field | Description |
|---------------------------------------|--|
| Un-Authentic IMSI | The total number of Active Emergency bearers (Unauthentic-IMSI). |
| Only IMEI | The total number of Active Emergency bearers (Only IMEI). |
| Setup | The total number of Emergency bearers setup. |
| Authentic IMSI | The total number of Emergency bearers (Authentic-IMSI) setup. |
| Un-Authentic IMSI | The total number of Emergency bearers (Unauthentic-IMSI) setup. |
| Only IMEI | The total number of Emergency bearers (Only IMEI) setup. |
| Rejected | The total number of Emergency bearers rejected. |
| Non-Emergency Bearers: | |
| Active | The total number of Active Non-Emergency bearers |
| Setup | The total number of Setup Non-Emergency bearers |
| eMPS PDN | |
| Current Active | |
| Cumulative Activated | |
| Cumulative De-activated | |
| DCNR PDN Statistics | |
| Active | The total number of current active SGW DCNR PDNs. |
| Setup | The total number of SGW PDNs that are setup as DCNR PDN. |
| Released | The total number of SGW DCNR PDNs released. |
| Bearers by QoS characteristics | |
| Active: QCI n | The total number of active bearers for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-Std QCI (Non-GBR) | The total number of active non-standard non-GBR bearers. |
| Non-Std QCI (GBR) | The total number of active non-standard GBR bearers |
| Setup: QCI n | The total number of bearers setup for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-Std QCI (Non-GBR) | The total number of non-standard non-GBR bearers setup. |
| Non-Std QCI (GBR) | The total number of non-standard GBR bearers setup. |
| Released: QCI n | The total number of released bearers for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |

| Field | Description |
|-----------------------------------|---|
| Dedicated Bearers By Type: | |
| UE-initiated: | |
| Active | Total bearers active - UE-initiated |
| Setup | Total bearers setup - UE-initiated |
| Network-initiated: | |
| Active | Total bearers active - Network-initiated |
| Setup | Total bearers setup - Network-initiated |
| Bearer Modifications: | |
| UE-initiated: | |
| QoS Modifications | Total bearers modified - UE-initiated Quality of Service (QoS)modification |
| TFT Modifications | Total bearers modified - UE-initiated Traffic Flow Template modification |
| Network-initiated: | |
| QoS Modifications | Total bearers modified - Network-initiated Quality of Service modification |
| TFT Modifications | Total bearers modified - Network-initiated Traffic Flow Template modification |
| Failures: | |
| UE-initiated-mod-fail: | Total bearers modification failure - UE-initiated modification failed |
| QOS changed | Total bearer modification failures - UE-initiated Quality of Service |
| No res available | Total bearer modification failures - UE-initiated Quality of Service - No resource available |
| Semantic err in TFT | Total bearers modification failures - UE-initiated Quality of Service - Semantic error in Traffic Flow Template operation |
| Syntact err in TFT | Total bearer modification failures - UE-initiated Quality of Service - Syntax error in Traffic Flow Template operation |
| Semantic err in fltr | Total bearer modification failures - UE-initiated Quality of Service - Semantic error in packet filter |
| Syntact err in fltr | Total bearer modification failures - UE-initiated Quality of Service - syntax error in packet filter |

| Field | Description |
|------------------------|---|
| No memory available | Total bearer modification failures - UE-initiated Quality of Service - No resource available |
| System failure | Total bearers modification failure - UE-initiated Quality of Service - System failure |
| No QOS changed | Total bearer modification failures - UE-initiated |
| No res available | Total bearer modification failures - UE-initiated - No resource available |
| Semantic err in TFT | Total bearers modification failures - UE-initiated - Semantic error in Traffic Flow Template operation |
| Syntact err in TFT | Total bearer modification failures - UE-initiated - Syntax error in Traffic Flow Template operation |
| Semantic err in fltr | Total bearer modification failures - UE-initiated - Semantic error in packet filter |
| Syntact err in fltr | Total bearer modification failures - UE-initiated - syntax error in packet filter |
| No memory available | Total bearer modification failures - UE-initiated - No resource available |
| System failure | Total bearers modification failure - UE-initiated - System failure |
| NW-initiated-mod-fail: | Total bearers modification failure - Network-initiated modification failed |
| QOS changed | Total bearer modification failures - Network-initiated Quality of Service |
| No res available | Total bearers modification failure - Network-initiated Quality of Service - No resource available |
| Semantic err in TFT | Total bearers modification failure - Network-initiated Quality of Service - Semantic error in Traffic Flow Template operation |
| Syntact err in TFT | Total bearers modification failure - Network-initiated Quality of Service - syntax error in Traffic Flow Template operation |
| Semantic err in fltr | Total bearers modification failure - Network-initiated Quality of Service - Semantic error in packet filter |
| Syntact err in fltr | Total bearers modification failure - Network-initiated Quality of Service - syntax error in packet filter |
| No memory available | Total bearers modification failure - Network-initiated Quality of Service - No memory available |
| System failure | Total bearers modification failure - Network-initiated Quality of Service - System failure |
| No QOS changed | Total bearer modification failures - Network-initiated |

| Field | Description |
|--|--|
| No res available | Total bearers modification failure - Network-initiated - No resource available |
| Semantic err in TFT | Total bearers modification failure - Network-initiated - Semantic error in Traffic Flow Template operation |
| Syntact err in TFT | Total bearers modification failure - Network-initiated - syntax error in Traffic Flow Template operation |
| Semantic err in fltr | Total bearers modification failure - Network-initiated - Semantic error in packet filter |
| Syntact err in fltr | Total bearers modification failure - Network-initiated - syntax error in packet filter |
| No memory available | Total bearers modification failure - Network-initiated - No memory available |
| System failure | Total bearers modification failure - Network-initiated - System failure |
| Dedicated Bearers Rejected By Reason: | |
| UE-initiated Bearer Rejects | Total dedicated bearers rejected - UE-initiated |
| No resource | Total dedicated bearers rejected - UE-initiated - No resource |
| NW-initiated Bearer Rejects | Total dedicated bearers rejected - Network-initiated |
| No resource | Total dedicated bearers rejected - Network-initiated - No resource |
| No mem available | Total dedicated bearers rejected - Network-initiated - No memory available |
| System failure | Total dedicated bearers rejected - Network-initiated - System failure |
| Dedicated Bearers Released By Reason: | |
| Network initiated release | Total dedicated bearers released - Network-initiated |
| Admin disconnect | Total dedicated bearers released - Network-initiated - Admindisconnect |
| GTP-U error ind | Total dedicated bearers released - Network-initiated - GTP-Uerror |
| MME initiated release | Total dedicated bearers released - Network-initiated - MME initiated release |
| Default Bearer release | Total dedicated bearers released - Network-initiated - Default bearer release |
| IP Address Allocation Statistics: | |
| Total IPv4 addrs allocated | Total IPv4 addresses allocated |
| Local pool assignment | Total IPv4 addresses allocated - Local pool address assignment |

| Field | Description |
|--------------------------------------|---|
| Static addr assignment | Total IPv4 addresses allocated - Static address assignment |
| Radius provided assignment | Total IPv4 addresses allocated - RADIUS provided address assignment |
| Total IPv6 addrs allocated | Total IPv6 addresses allocated |
| Stateless auto config | Total IPv6 address allocated - Stateless auto config |
| Local pool assignment | Total IPv6 addresses allocated - Local pool address assignment |
| Static addr assignment | Total IPv6 addresses allocated - Static address assignment |
| Radius provided assignment | Total IPv6 addresses allocated - RADIUS provided address assignment |
| SGi tunneling statistics: | |
| Total IPv4 tunnel sessions: | |
| IP-in-IP Tunnels: | |
| Active | SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions active |
| Setup | SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions setup |
| Released | SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions released |
| GRE Tunnels: | |
| Active | SGi tunneling Statistics - IPv4 GRE tunnel sessions active |
| Setup | SGi tunneling Statistics - IPv4 GRE tunnel sessions setup |
| Released | SGi tunneling Statistics - IPv4 GRE tunnel sessions released |
| Total IPv6 tunneled sessions: | |
| 6to4 Tunnels: | |
| Active | SGi tunneling Statistics - IPv6 6to4 tunnel sessions active |
| Setup | SGi tunneling Statistics - IPv6 6to4 tunnel sessions setup |
| Released | SGi tunneling Statistics - IPv6 6to4 tunnel sessions released |
| Handover Statistics: | |
| Intra Technology handover: | |
| Inter SGSN handover: | |
| Attempted | Total number of inter-SGSN handover attempts |
| Succeeded | Total number of successful inter-SGSN handovers |

| Field | Description |
|-----------------------------------|--|
| Failed | Total number of failed inter-SGSN handovers |
| Inter SGW handover: | |
| Attempted | Total number of inter-SGW handover attempts |
| Succeeded | Total number of successful inter-SGW handovers |
| Failed | Total number of failed inter-SGW handovers |
| Inter HSGW handover: | |
| Attempted | Total number of inter-HSGW handover attempts |
| Succeeded | Total number of successful inter-HSGW handovers |
| Failed | Total number of failed inter-HSGW handovers |
| Inter Technology handover: | |
| GNGP-to-LTE handover: | |
| Attempted | Total number of Gn/Gp to LTE attempted handovers |
| Succeeded | Total number of Gn/Gp to LTE successful handovers |
| Failed | Total number of Gn/Gp to LTE failed handovers |
| LTE-to-GNGP handover: | |
| Attempted | Total number of LTE to Gn/Gp attempted handovers |
| Succeeded | Total number of LTE to Gn/Gp successful handovers |
| Failed | Total number of LTE to Gn/Gp failed handovers |
| LTE-to-eHRPD handover: | |
| Attempted | Total number of LTE to eHRPD attempted handovers |
| Succeeded | Total number of LTE to eHRPD successful handovers |
| Failed | Total number of LTE to eHRPD failed handovers |
| eHRPD-to-LTE handover: | |
| Attempted | Total number of eHRPD to LTE attempted handovers |
| Succeeded | Total number of eHRPD to LTE successful handovers |
| Failed | Total number of eHRPD to LTE failed handovers |
| LTE-to-S2bPMIP handover: | |
| Attempted | Total number of LTE to S2bPMIP attempted handovers |

| Field | Description |
|-----------------------------------|---|
| Succeeded | Total number of LTE to S2bPMIP successful handovers |
| Failed | Total number of LTE to S2bPMIP failed handovers |
| S2bPMIP-to-LTE handover: | |
| Attempted | Total number of S2bPMIP to LTE attempted handovers |
| Succeeded | Total number of S2bPMIP to LTE successful handovers |
| Failed | Total number of S2bPMIP to LTE failed handovers |
| eHRPD-to-S2bPMIP handover: | |
| Attempted | Total number of eHRPD to S2bPMIP attempted handovers |
| Succeeded | Total number of eHRPD to S2bPMIP successful handovers |
| Failed | Total number of eHRPD to S2bPMIP failed handovers |
| S2bPMIP-to-eHRPD handover: | |
| Attempted | Total number of S2bPMIP to eHRPD attempted handovers |
| Succeeded | Total number of S2bPMIP to eHRPD successful handovers |
| Failed | Total number of S2bPMIP to eHRPD failed handovers |
| S2bGTP-to-LTE handover: | |
| Attempted | Total number of S2bGTP to LTE attempted handovers |
| Succeeded | Total number of S2bGTP to LTE successful handovers |
| Failed | Total number of S2bGTP to LTE failed handovers |
| LTE-to-S2bGTP handover: | |
| Attempted | Total number of LTE to S2bGTP attempted handovers |
| Succeeded | Total number of LTE to S2bGTP successful handovers |
| Failed | Total number of LTE to S2bGTP failed handovers |
| S2bGTP-to-EHRPD handover: | |
| Attempted | Total number of S2bGTP to eHRPD attempted handovers |
| Succeeded | Total number of S2bGTP to eHRPD successful handovers |
| Failed | Total number of S2bGTP to eHRPD failed handovers |
| EHRPD-to-S2bGTP handover: | |
| Attempted | Total number of eHRPD to S2bGTP attempted handovers |

| Field | Description |
|---|--|
| Succeeded | Total number of eHPRD to S2bGTP successful handovers |
| Failed | Total number of eHPRD to S2bGTP failed handovers |
| GNGP-to-S4SGSN handover: | |
| Attempted | Total number of GNGP-to-S4SGSN attempted handovers |
| Succeeded | Total number of GNGP-to-S4SGSN successful handovers |
| Failed | Total number of GNGP-to-S4SGSN failed handovers |
| S4SGSN-to-GNGP handover: | |
| Attempted | Total number of S4SGSN-to-GNGP attempted handovers |
| Succeeded | Total number of S4SGSN-to-GNGP successful handovers |
| Failed | Total number of S4SGSN-to-GNGP failed handovers |
| S4SGSN-to-LTE handover: | |
| Attempted | Total number of S4SGSN-to-LTE attempted handovers |
| Succeeded | Total number of S4SGSN-to-LTE successful handovers |
| Failed | Total number of S4SGSN-to-LTE failed handovers |
| LTE-to-S4SGSN handover: | |
| Attempted | Total number of LTE-to-S4SGSN attempted handovers |
| Succeeded | Total number of LTE-to-S4SGSN successful handovers |
| Failed | Total number of LTE-to-S4SGSN failed handovers |
| P-CSCF Restoration Indications received: | <p>The total number of P-CSCF Restoration indications received (HSS Triggered and PCRF Triggered) at service level.</p> <p>The total number of triggers received on any interface (MME/PCRF/S6b) = Basic + Extended + Ignored (ignored for reasons such as restoration already in progress, license not present, validation check fails, or call not connected).</p> |
| HSS Triggered Restoration: | |
| MME Triggered Restoration | Tracks the number of occurrences of P-CSCF Restoration Required Indications received from the MME/S-GW through a modify bearer request. |
| Basic Restoration Performed | The total number of basic P-CSCF Restorations performed for restoration indications received from the MME/S-GW. |
| Extension Restoration Performed | The total number of extended P-CSCF Restorations performed for restoration indications received from the MME/S-GW. |

| Field | Description |
|--|--|
| S6b Triggered Restoration | The total number of P-CSCF Restoration Required Indications received from the s6b AAA server through a RAR for a WLAN. |
| Basic Restoration Performed | The total number of basic P-CSCF Restorations performed for restoration indications received from an s6b AAA server through a RAR for a WLAN. |
| Extension Restoration Performed | The total number of extended P-CSCF Restorations performed for restoration indications received from an s6b AAA server through a RAR for a WLAN. |
| PCRF Triggered Restoration: | The total number of P-CSCF Restoration Required Indications received from the PCRF through RAR. |
| Basic Restoration Performed | The total number of basic P-CSCF Restorations performed for restoration indications received from PCRF through a RAR. |
| Extension Restoration Performed | The total number of extended P-CSCF Restorations performed for restoration indications received from a PCRF through a RAR. |
| Data Statistics Per Interface: | |
| S5U/S8U/S2bU/Gn/Gp Total Data Statistics: | |
| Uplink: | |
| Total Pkts | The total number of uplink packets forwarded. |
| Std QCI (Non-GBR) | The total number of uplink packets forwarded with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of uplink packets forwarded with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of uplink packets forwarded with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of uplink packets forwarded with a non-standard QoS Class Index (GBR). |
| Total Bytes | The total number of uplink bytes forwarded. |
| Std QCI (Non-GBR) | The total number of uplink bytes forwarded with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of uplink bytes forwarded with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of uplink bytes forwarded with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of uplink bytes forwarded with a non-standard QoS Class Index (GBR). |

| Field | Description |
|------------------------|---|
| Total Dropped Pkts | The total number of uplink packets dropped. |
| Std QCI (Non-GBR) | The total number of uplink packets dropped with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of uplink packets dropped with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of uplink packets dropped with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of uplink packets dropped with a non-standard QoS Class Index (GBR). |
| Total Dropped Bytes | The total number of uplink bytes dropped. |
| Std QCI (Non-GBR) | The total number of uplink bytes dropped with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of uplink bytes dropped with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of uplink bytes dropped with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of uplink bytes dropped with a non-standard QoS Class Index (GBR). |
| Dropped Pkts MBR Excd | The total number of uplink packets dropped due to MBR exceeded. |
| Std QCI (Non-GBR) | The total number of uplink packets dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Std QCI (GBR) | The total number of uplink packets dropped with a standard QoS Class Index due to MBR exceeded. |
| Non-Std QCI (Non-GBR) | The total number of uplink packets dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Non-Std QCI (GBR) | The total number of uplink packets dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded. |
| Dropped Bytes MBR Excd | The total number of uplink bytes dropped due to MBR exceeded. |
| Std QCI (Non-GBR) | The total number of uplink bytes dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Std QCI (GBR) | The total number of uplink bytes dropped with a standard QoS Class Index due to MBR exceeded. |
| Non-Std QCI (Non-GBR) | The total number of uplink bytes dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded. |

| Field | Description |
|----------------------------------|---|
| Non-Std QCI (GBR) | The total number of uplink bytes dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded. |
| Drops Due To APN AMBR Rate Limit | |
| Packets | The total number of uplink packets dropped due to APN AMBR rate limit. |
| Bytes | The total number of uplink bytes dropped due to APN AMBR rate limit. |
| Downlink: | |
| Total Pkts | The total number of downlink packets forwarded. |
| Std QCI (Non-GBR) | The total number of downlink packets forwarded with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of downlink packets forwarded with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of downlink packets forwarded with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of downlink packets forwarded with a non-standard QoS Class Index (GBR). |
| Total Bytes | The total number of downlink bytes forwarded. |
| Std QCI (Non-GBR) | The total number of downlink bytes forwarded with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of downlink bytes forwarded with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of downlink bytes forwarded with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of downlink bytes forwarded with a non-standard QoS Class Index (GBR). |
| Total Dropped Pkts | The total number of downlink packets dropped. |
| Std QCI (Non-GBR) | The total number of downlink packets dropped with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of downlink packets dropped with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of downlink packets dropped with a non-standard QoS Class Index (non-GBR). |

| Field | Description |
|----------------------------------|---|
| Non-Std QCI (GBR) | The total number of downlink packets dropped with a non-standard QoS Class Index (GBR). |
| Total Dropped Bytes | The total number of downlink bytes dropped. |
| Std QCI (Non-GBR) | The total number of downlink bytes dropped with a standard QoS Class Index (non-GBR). |
| Std QCI (GBR) | The total number of downlink bytes dropped with a standard QoS Class Index. |
| Non-Std QCI (Non-GBR) | The total number of downlink bytes dropped with a non-standard QoS Class Index (non-GBR). |
| Non-Std QCI (GBR) | The total number of downlink bytes dropped with a non-standard QoS Class Index (GBR). |
| Dropped Pkts MBR Excd | The total number of downlink packets dropped due to MBR exceeded. |
| Std QCI (Non-GBR) | The total number of downlink packets dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Std QCI (GBR) | The total number of downlink packets dropped with a standard QoS Class Index due to MBR exceeded. |
| Non-Std QCI (Non-GBR) | The total number of downlink packets dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Non-Std QCI (GBR) | The total number of downlink packets dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded. |
| Dropped Bytes MBR Excd | The total number of downlink bytes dropped due to MBR exceeded. |
| Std QCI (Non-GBR) | The total number of downlink bytes dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Std QCI (GBR) | The total number of downlink bytes dropped with a standard QoS Class Index due to MBR exceeded. |
| Non-Std QCI (Non-GBR) | The total number of downlink bytes dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded. |
| Non-Std QCI (GBR) | The total number of downlink bytes dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded. |
| Drops Due To APN AMBR Rate Limit | |
| Packets | The total number of downlink packets dropped due to APN AMBR rate limit. |

| Field | Description |
|--------------------------------------|--|
| Bytes | The total number of downlink bytes dropped due to APN AMBR rate limit. |
| Data Statistics Per PDN-Type: | |
| IPv4 PDNs: | |
| Uplink: | |
| Total Pkts | The total number of IPv4 PDN uplink packets (from user). |
| Total Bytes | The total number of IPv4 PDN uplink bytes (from user). |
| Downlink: | |
| Total Pkts | The total number of IPv4 PDN downlink packets (to user). |
| Total Bytes | The total number of IPv4 PDN downlink bytes (to user). |
| IPv6 PDN Data Statistics: | |
| Uplink: | |
| Total Pkts | The total number of IPv6 PDN uplink packets (from user). |
| Total Bytes | The total number of IPv6 PDN uplink bytes (from user). |
| Downlink: | |
| Total Pkts | The total number of IPv6 PDN downlink packets (to user). |
| Total Bytes | The total number of IPv6 PDN downlink bytes (to user). |
| IPv4v6 PDN Data Statistics: | |
| Uplink: | |
| Total Pkts v4 | The total number of IPv4 PDN uplink packets (from user). |
| Total Bytes v4 | The total number of IPv4 PDN uplink bytes (from user). |
| Total Pkts v6 | The total number of IPv6 PDN uplink packets (from user). |
| Total Bytes v6 | The total number of IPv6 PDN uplink bytes (from user). |
| Downlink: | |
| Total Pkts v4 | The total number of IPv4 PDN downlink packets (to user). |
| Total Bytes v4 | The total number of IPv4 PDN downlink bytes (to user). |
| Total Pkts v6 | The total number of IPv6 PDN downlink packets (to user). |
| Total Bytes v6 | The total number of IPv6 PDN downlink bytes (to user). |

| Field | Description |
|--|---|
| Packets: QCI n | The total number of uplink packets transmitted for QCI n. Where n is a QCI value of 1 through 9, or a QCI value of 65, 66, 69, or 70. |
| Non-Std QCI | The total number of non-standard QCI uplink packets transmitted. |
| Packets: QCI n | The total number of downlink packets transmitted for QCI n. Where n is a QCI value of 1 through 9, or a QCI value of 65, 66, 69, or 70. |
| Non-Std QCI | The total number of non-standard QCI downlink packets transmitted. |
| 802.1p priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with an internal QoS priority. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with an internal QoS priority. |
| Dedicated Bearer Released due to Idle-Inactivity timeout: | |
| Std QCI (Non-GBR) | The number of dedicated non-Guaranteed bit rate (non-GBR) bearers with a standard QCI value that were released due to an idle-inactivity timeout. |
| Non-Std QCI (Non-GBR) | The number of dedicated non-Guaranteed bit rate (non-GBR) bearers with a non-standard QCI value that were released due to an idle-inactivity timeout. |
| Std QCI (GBR) | The number of dedicated Guaranteed Bit Rate (GBR) bearers with a standard QCI value that were released due to an idle-inactivity timeout. |
| Non-std QCI (GBR) | The number of dedicated Guaranteed Bit Rate (GBR) bearers with a non-standard QCI value that were released due to an idle-inactivity timeout. |
| PDNs by RAT-Type: | |
| EUTRAN | The total number of EUTRAN PDNs by RAT-Type. |

| Field | Description |
|--|---|
| UTRAN | The total number of UTRANs PDNs by RAT-Type. |
| GERAN | The total number of GERANs PDNs by RAT-Type. |
| WLAN | The total number of WLANs PDNs by RAT-Type. |
| Other | The total number of Others PDNs by RAT-Type. |
| SGW Restoration Statistics: | |
| PDNs Total: | |
| In Restoration State: | |
| Recovered | The total number of PDN session recovered during SGW Restoration. |
| Released | The total number of PDN sessions released during SGW Restoration. |
| Drops during SGW Restoration: | |
| Packets | The total number of packets dropped during SGW Restoration. |
| Bytes | The total number of bytes dropped uring SGW Restoration. |
| P-CSCF Restoration Indications received: (Count at Service Level) | |
| Data Statistics Per Interface | Total number of occurrences of P-CSCF Restoration Required Indications received from the MME/S-GW through a modify bearer request |
| S2bGTP-to-eHRPD handover: | |
| Attempted | Total number of S2bGTP-to-eHRPD handover attempts |
| Succeeded | Total number of successful S2bGTP-to-eHRPD handovers |
| Failed | Total number of failed S2bGTP-to-eHRPD handovers |
| eHRPD-to-S2bGTP handover: | |
| Attempted | Total number of eHRPD-to-S2bGTP handover attempts |
| Succeeded | Total number of successful eHRPD-to-S2bGTP handovers |
| Failed | Total number of failed eHRPD-to-S2bGTP handovers |

The following command output applies to releases prior to 14.0.

Table 449: show pgw-service statistics all Command Output Descriptions 0

| Field | Description |
|----------------------------------|-------------|
| PGW Node Level Statistics | |

| Field | Description |
|----------------------|---|
| VPN Name | The name of the context in which the P-GW service is configured. |
| Total Active UE | The total number of active subscribers. |
| Total bearers active | |
| Default bearers | The total number of active default bearers using the P-GW node. |
| Non-Emergency | The total number of active default non-emergency bearers using the P-GW node. |
| Emergency | The total number of active default emergency bearers using the P-GW node. |
| Dedicated bearers | The total number of active dedicated bearers using the P-GW node. |
| UE-initiated | The total number of active UE-initiated dedicated bearers using the P-GW node. |
| Network-initiated | The total number of active network-initiated dedicated bearers using the P-GW node. |
| Non-Emergency | The total number of active non-emergency dedicated bearers using the P-GW node. |
| Emergency | The total number of active emergency dedicated bearers using the P-GW node. |
| Total bearers setup | |
| Default bearers | The total number of default bearers set up using the P-GW node. |
| Non-Emergency | The total number of default non-emergency bearers set up using the P-GW node. |
| Emergency | The total number of default emergency bearers set up using the P-GW node. |
| Dedicated bearers | The total number of dedicated bearers set up using the P-GW node. |
| UE-initiated | The total number of UE-initiated dedicated bearers set up using the P-GW node. |
| Network-initiated | The total number of network-initiated dedicated bearers set up using the P-GW node. |
| Non-Emergency | The total number of non-emergency dedicated bearers set up using the P-GW node. |
| Emergency | The total number of emergency dedicated bearers set up using the P-GW node. |

| Field | Description |
|--|---|
| Total bearers released | |
| Default bearers | The total number of default bearers released using the P-GW node. |
| Network init release | The total number of default bearers released due to an network-initiated release using the P-GW node. |
| MME init release | The total number of default bearers released due to an MME-initiated release using the P-GW node. |
| Dedicated bearers | The total number of dedicated bearers released using the P-GW node. |
| Network initiated release | The total number of dedicated bearers released due to an network-initiated release using the P-GW node. |
| S4 SGSN initiated release | The total number of dedicated bearers released due to an S4-SGSN-initiated release using the P-GW node. |
| MME initiated release | The total number of dedicated bearers released due to an MME-initiated release using the P-GW node. |
| Default bearer release | The total number of dedicated bearers released due to a default bearer release using the P-GW node. |
| Total bearers release failure | |
| Default bearers | The total number of default bearer release failures using the P-GW node. |
| Dedicated bearers | The total number of dedicated bearer release failures using the P-GW node. |
| Total bearers rejected | |
| Default bearers | The total number of default bearers rejected using the P-GW node. |
| Dedicated bearers | The total number of dedicated bearers rejected using the P-GW node. |
| UE-req reject | The total number of UE-requested bearers rejected using the P-GW node. |
| Network-req reject | The total number of network-requested bearers rejected using the P-GW node. |
| Total Emergency default bearer rejected | The total number of emergency default bearer rejected using the P-GW node. |
| Total Emergency dedicated bearers rejected | The total number of emergency dedicated bearer rejected using the P-GW node. |
| Total bearers modified | |

| Field | Description |
|--------------------------------------|---|
| UE-initiated mod | The total number of UE-initiated bearers modified using the P-GW node. |
| Network-initiated mod | The total number of network-initiated bearers modified using the P-GW node. |
| Total bearers modification failure | |
| UE-initiated mod fail | The total number of UE-initiated bearer modification failures using the P-GW node. |
| Network-initiated mod fail | The total number of network-initiated bearer modification failures using the P-GW node. |
| Subscriber session statistics | |
| Total bearers active | |
| Default bearers | The total number of active default bearers using the P-GW service(s) on this system. |
| Dedicated bearers | The total number of active dedicated bearers using the P-GW service(s) on this system. This counter increments for both network and UE-initiated dedicated bearers. |
| Total bearers setup | |
| Default bearers | The total number of default bearers setup using the P-GW service(s) on this system. |
| Dedicated bearers | The total number of dedicated bearers setup using the P-GW service(s) on this system. This counter increments for both network and UE-initiated dedicated bearer setup. |
| Total bearers released | |
| Default bearers | The total number of default bearers released using the P-GW service(s) on this system. |
| Network initiated release | |
| Admin disconnect | The total number of default bearers released due to an administrative disconnect using the P-GW service(s) on this system. |
| GTP-U error ind | The total number of default bearers released due to a GTP-U error indication using the P-GW service(s) on this system. |
| SGW Path failure | The total number of default bearers released due to an S-GW path failure using the P-GW service(s) on this system. |
| MME Initiated release | The total number of default bearers released due to an MME initiated release using the P-GW service(s) on this system. |

| Field | Description |
|-------------------------------|--|
| Dedicated bearers | The total number of dedicated bearers released using the P-GW service(s) on this system. |
| Network initiated release | |
| Admin disconnect | The total number of dedicated bearers released due to an administrative disconnect using the P-GW service(s) on this system. |
| GTP-U error ind | The total number of dedicated bearers released due to a GTP-U error indication using the P-GW service(s) on this system. |
| MME initiated release | The total number of dedicated bearers released due to an MME initiated release using the P-GW service(s) on this system. |
| Default bearer release | The total number of dedicated bearers released due to a default bearer release using the P-GW service(s) on this system. |
| Total bearers release failure | |
| Default bearers | The total number of default bearer release failures using the P-GW service(s) on this system. |
| Dedicated bearers | The total number of dedicated bearer release failures using the P-GW service(s) on this system. |
| Total bearers rejected: | |
| Default bearers | The total number of default bearers rejected using the P-GW service(s) on this system. |
| No Resource | The total number of default bearers rejected due to a no resource condition using the P-GW service(s) on this system. |
| Missing or unknown APN | The total number of default bearers rejected due to a missing or unknown APN using the P-GW service(s) on this system. |
| APN selection-Mode mismatch | The total number of default bearers rejected due to an APN selection mode mismatch using the P-GW service(s) on this system. |
| Pref PDN-Type not supported | The total number of default bearers rejected due to a preferred PDN type not supported condition using the P-GW service(s) on this system. |
| APN restr violation | The total number of default bearers rejected due to an APN restriction violation using the P-GW service(s) on this system. |
| Subs auth failed | The total number of default bearers rejected due to a subscriber authentication failure using the P-GW service(s) on this system. |

| Field | Description |
|------------------------------------|---|
| Subs static addr not allowed | The total number of default bearers rejected due to a disallowed subscriber static IP address using the P-GW service(s) on this system. |
| Subs static addr not alloc | The total number of default bearers rejected due to an unallocated subscriber static IP address using the P-GW service(s) on this system. |
| Dynamic addr not alloc | The total number of default bearers rejected due to an unallocated dynamic IP address using the P-GW service(s) on this system. |
| Subs static addr not present | The total number of default bearers rejected due to a missing subscriber static IP address using the P-GW service(s) on this system. |
| Dedicated bearers | The total number of dedicated bearers rejected using the P-GW service(s) on this system. |
| UE-req reject | The total number of UE-requested dedicated bearers rejected using the P-GW service(s) on this system. |
| Network-req reject | The total number of network-requested dedicated bearers rejected using the P-GW service(s) on this system. |
| Total bearers modified | |
| UE-initiated modification | The total number of UE-initiated bearers modified using the P-GW service(s) on this system. |
| QOS modification | The total number of UE-initiated bearers with a QoS modification using the P-GW service(s) on this system. |
| TFT modification | The total number of UE-initiated bearers with a TFT modification using the P-GW service(s) on this system. |
| Network-initiated modification | The total number of network-initiated bearers modified using the P-GW service(s) on this system. |
| QOS modification | The total number of network-initiated bearers with a QoS modification using the P-GW service(s) on this system. |
| TFT modification | The total number of network-initiated bearers with a TFT modification using the P-GW service(s) on this system. |
| Total bearers modification failure | |
| UE-initiated mod failed | The total number of UE-initiated bearer modification failures using the P-GW service(s) on this system. |
| QOS mod fail | The total number of UE-initiated bearer modification failures due to QoS modification failures using the P-GW service(s) on this system. |

| Field | Description |
|------------------------------|---|
| Semantic err in TFT oper | The total number of UE-initiated bearer modification failures due to semantic errors in a TFT operation using the P-GW service(s) on this system. |
| Syntact err in TFT oper | The total number of UE-initiated bearer modification failures due to syntactic errors in a TFT operation using the P-GW service(s) on this system. |
| Semantic err in pkt filter | The total number of UE-initiated bearer modification failures due to semantic errors in a packet filter using the P-GW service(s) on this system. |
| Syntact err in pkt filter | The total number of UE-initiated bearer modification failures due to syntactic errors in a packet filter using the P-GW service(s) on this system. |
| Network-initiated mod failed | The total number of network-initiated bearer modification failures using the P-GW service(s) on this system. |
| QOS mod fail | The total number of network-initiated bearer modification failures due to QoS modification failures using the P-GW service(s) on this system. |
| Semantic err in TFT oper | The total number of network-initiated bearer modification failures due to semantic errors in a TFT operation using the P-GW service(s) on this system. |
| Syntact err in TFT oper | The total number of network-initiated bearer modification failures due to syntactic errors in a TFT operation using the P-GW service(s) on this system. |
| Semantic err in pkt filter | The total number of network-initiated bearer modification failures due to semantic errors in a packet filter using the P-GW service(s) on this system. |
| Syntact err in pkt filter | The total number of network-initiated bearer modification failures due to syntactic errors in a packet filter using the P-GW service(s) on this system. |
| Total PDN-Type stats | |
| PDN-Type IPv4 sessions | The total number of PDN-type IPv4 sessions using the P-GW service(s) on this system. |
| Active | The total number of active PDN-type IPv4 sessions using the P-GW service(s) on this system. |
| Setup | The total number of setup PDN-type IPv4 sessions using the P-GW service(s) on this system. |
| Released | The total number of released PDN-type IPv4 sessions using the P-GW service(s) on this system. |

| Field | Description |
|---|---|
| PDN-Type IPv6 sessions | The total number of PDN-type IPv6 sessions using the P-GW service(s) on this system. |
| Active | The total number of active PDN-type IPv6 sessions using the P-GW service(s) on this system. |
| Setup | The total number of setup PDN-type IPv6 sessions using the P-GW service(s) on this system. |
| Released | The total number of released PDN-type IPv6 sessions using the P-GW service(s) on this system. |
| PDN-Type IPv4v6 sessions | The total number of PDN-type IPv4v6 sessions using the P-GW service(s) on this system. |
| Active | The total number of active PDN-type IPv4v6 sessions using the P-GW service(s) on this system. |
| Setup | The total number of setup PDN-type IPv4v6 sessions using the P-GW service(s) on this system. |
| Released | The total number of released PDN-type IPv4v6 sessions using the P-GW service(s) on this system. |
| IP address allocation statistics | |
| Total IPv4 adrs allocated | The total number of IPv4 addresses allocated using the P-GW service(s) on this system. |
| Local pool add assign | The total number of local IP pool IPv4 addresses allocated using the P-GW service(s) on this system. |
| Static addr assign | The total number of static IPv4 addresses allocated using the P-GW service(s) on this system. |
| Radius provided addr assign | The total number of RADIUS-provided IPv4 addresses allocated using the P-GW service(s) on this system. |
| Total IPv6 adrs allocated | The total number of IPv6 addresses allocated using the P-GW service(s) on this system. |
| Stateless auto config | The total number of stateless address auto configuration IPv6 addresses allocated using the P-GW service(s) on this system. |
| Local pool add assign | The total number of local IP pool IPv6 addresses allocated using the P-GW service(s) on this system. |
| Static addr assign | The total number of static IPv6 addresses allocated using the P-GW service(s) on this system. |
| Radius provided addr assign | The total number of RADIUS-provided IPv6 addresses allocated using the P-GW service(s) on this system. |

| Field | Description |
|-----------------------------------|--|
| SGi tunneling statistics | |
| Total IPv4 tunnel sessions | The total number of IPv4 tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| IP-in-IP tun sessn active | The total number of active IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| IP-in-IP tun sessions setup | The total number of setup IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| IP-in-IP tun sessions released | The total number of released IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| GRE-tun sessions active | The total number of active GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| GRE-tun sessions setup | The total number of setup GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| GRE-tun session release | The total number of released GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| Total IPv6 tunneled sessions | The total number of IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| 6to4 tun sessions active | The total number of active IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| 6to4 tun session setup | The total number of setup IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| 6to4 tun sessions released | The total number of released IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system. |
| Subscriber PLMN Statistics | |
| Home subscribers sessions | The total number of home subscriber sessions using the P-GW service(s) on this system. |
| Sessions active | The total number of active home subscriber sessions using the P-GW service(s) on this system. |
| Sessions setup | The total number of setup home subscriber sessions using the P-GW service(s) on this system. |
| Sessions released | The total number of released home subscriber sessions using the P-GW service(s) on this system. |
| Roaming subscribers sessions | The total number of roaming subscriber sessions using the P-GW service(s) on this system. |

| Field | Description |
|----------------------------------|--|
| Sessions active | The total number of active roaming subscriber sessions using the P-GW service(s) on this system. |
| Sessions setup | The total number of setup roaming subscriber sessions using the P-GW service(s) on this system. |
| Sessions released | The total number of released roaming subscriber sessions using the P-GW service(s) on this system. |
| Visiting subscribers sessions | The total number of visiting subscriber sessions using the P-GW service(s) on this system. |
| Sessions active | The total number of active visiting subscriber sessions using the P-GW service(s) on this system. |
| Sessions setup | The total number of setup visiting subscriber sessions using the P-GW service(s) on this system. |
| Sessions released | The total number of released visiting subscriber sessions using the P-GW service(s) on this system. |
| Subscriber QoS Statistics | |
| Total bearers active | |
| QCI 1 - 9 | The total number of active bearers with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of active bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of active bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total bearers setup | |
| QCI 1 - 9 | The total number of setup bearers with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of setup bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of setup bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total bearers released | |
| QCI 1 - 9 | The total number of released bearers with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of released bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |

| Field | Description |
|-----------------------------------|--|
| Non-Std QCI (GBR) | The total number of released bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Subscriber Data Statistics | |
| Total Uplink packets forwarded | |
| QCI 1 - 9 | The total number of uplink packets forwarded with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of uplink packets forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of uplink packets forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Uplink bytes forwarded | |
| QCI 1 - 9 | The total number of uplink bytes forwarded with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of uplink bytes forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of uplink bytes forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Downlink packets forwarded | |
| QCI 1 - 9 | The total number of downlink packets forwarded with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of downlink packets forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of downlink packets forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Downlink bytes forwarded | |
| QCI 1 - 9 | The total number of downlink bytes forwarded with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of downlink bytes forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of downlink bytes forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Uplink packets dropped | |

| Field | Description |
|---|--|
| QCI 1 - 9 | The total number of uplink packets dropped with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of uplink packets dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of uplink packets dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Uplink bytes dropped | |
| QCI 1 - 9 | The total number of uplink bytes dropped with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of uplink bytes dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of uplink bytes dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Downlink packets dropped | |
| QCI 1 - 9 | The total number of downlink packets dropped with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of downlink packets dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of downlink packets dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| Total Downlink bytes dropped | |
| QCI 1 - 9 | The total number of downlink bytes dropped with a QoS Class Index using the P-GW service(s) on this system. |
| Non-Std QCI (Non-GBR) | The total number of downlink bytes dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system. |
| Non-Std QCI (GBR) | The total number of downlink bytes dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system. |
| 802.1p priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in release 16.0 and later. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in release 16.0 and later. |
| Priority marking statistics | |

| Field | Description |
|------------------------|--|
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with an internal QoS priority. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with an internal QoS priority. |



CHAPTER 106

show pilot-packet statistics

This chapter describes the output of the **show pilot-packet statistics** command.

- [show pilot-packet statistics](#), on page 1735
- [show pilot-packet statistics all](#), on page 1735

show pilot-packet statistics

This chapter describes the output of the **show pilot-packet statistics** command.

show pilot-packet statistics all

Displays statistical information for all Pilot Packet operations on the system.

Table 450: show pilot-packet statistics all Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Session manager instance | The sessmgr instance number. |
| Server name | The name of the server. |
| NAT Alloc | The total number of Pilot Packets sent for every IP/Port allocation for all NAT enabled calls. |
| NAT De Alloc | The total number of Pilot Packets sent for every IP/Port deallocation for all NAT enabled calls. |
| Non NAT Alloc | The total number of Pilot Packets sent for every IP/Port allocation for all non-NAT calls. |
| Non NAT De Alloc | The total number of Pilot Packets sent for every IP/Port deallocation for all non-NAT calls. |
| Total Alloc | The total number of Pilot Packets sent for every IP/Port allocation for all call types. |

| Field | Description |
|----------------------|--|
| Total De Alloc | The total number of Pilot Packets sent for every IP/Port deallocation for all call types. |
| RAT-Change-User-Info | The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change. |
| RAT-Change-NAT-Info | The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change. |



CHAPTER 107

show plugin

- [show plugin, on page 1737](#)

show plugin

Table 451: show plugin Command Output Descriptions

| Field | Description |
|-----------------|--|
| Patch-directory | Displays the patch directory location. |
| Base-directory | Displays the base directory location. |
| Base-version | Displays the base version (default). |
| Module Priority | Displays the module priority number. |
| Version | Displays the version number of the plugin. |



CHAPTER 108

show port

This chapter describes the output of the **show port** command.



Important

The outputs of **show port** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- [show port datalink counters \(ASR 5000\)](#), on page 1739
- [show port datalink counters \(ASR 5500\)](#), on page 1742
- [show port datalink counters \(VPC-SI, VPC-DI\)](#), on page 1744
- [show port dinet](#), on page 1746
- [show port info](#), on page 1746
- [show port npu counters](#), on page 1757
- [show port table](#), on page 1760
- [show port transceiver \(ASR 5500\)](#), on page 1761
- [show port utilization table](#), on page 1762

show port datalink counters (ASR 5000)

Table 452: show port datalink counters Command Output Descriptions (ASR 5000)

| Field | Description |
|--------------------|--|
| Counters for port | The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs. |
| Line Card | Line card type displayed as a text string |
| RX Counters | |
| RX Bytes | The number of received bytes. |
| RX BAD frames | The number of received frames with errors. |
| RX Runt frames | The number of received frames of less that expected size. |
| RX Oversize frames | The number of received oversize frames. |

| Field | Description |
|--------------------------------------|--|
| RX Good frames | The number of received frames with no errors. |
| RX Unicast frames | The number of Unicast frames received. |
| RX Multicast frames | The number of Multicast frames received. |
| RX Broadcast frames | The number of Broadcast frames received. |
| RX Size | The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518 |
| RX OverSize frames | The number of oversized frames received. |
| RX Bytes OK | The number of bytes that were received without error. |
| RX Bytes BAD ASR 5000 only | The number of bytes that were received with errors. |
| RX OVF | The number of overflows received. |
| RX SHORT OK | The number of frames, less than 64 bytes in length, received without any error. |
| RX SHORT CRC | The number of frames, less than 64 bytes in length, received with cyclical redundancy check (CRC) error. |
| RX NO SFD | The number of frames received without start frame delimiter (SFD) detection but with carrier assertion. |
| RX NORM CRC | The number of frames, with lengths between 64 bytes and the maximum frame size, received with an integral number of bytes and a cyclical redundancy check (CRC) error. |
| RX NORM ALI | The number of frames, with lengths between 64 bytes and the maximum frame size, received with a non-integral number of bytes and a cyclical redundancy check (CRC) error. |
| RX LONG OK | The number of frames, larger than the maximum frame size, received without any error. |

| Field | Description |
|---------------------|--|
| RX LONG CRC | The number of frames, larger than the maximum frame size, received with CRC error. |
| RX PAUSE | The number of correct received flow-control frames. |
| RX FALS CRS | The number of false carrier events detected. |
| RX SYM ERR | The number of received frames during which physical (PHY) symbol errors were detected. |
| RX GPCS ERR | The number of received frames during which physical (PHY) symbol errors were detected. |
| Tx Counters | |
| TX Unicast frames | The number of Unicast frames transmitted. |
| TX Multicast frames | The number of Multicast frames transmitted. |
| TX Broadcast frames | The number of Broadcast frames transmitted. |
| TX Size | The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518 |
| TX Bytes OK | The number of bytes that were transmitted without error. |
| TX Bytes BAD | The number of bytes that were transmitted with errors. |
| TX DEFER | The number of frames deferred upon the first transmit attempt due to a busy line. |
| TX COL | The number of regular collision events occurring during transmission. |
| TX SCOL | The number of frames transmitted without any error following a single collision. |
| TX MCOL | The number of frames transmitted without any error following multiple collision. |

| Field | Description |
|----------|---|
| TX XCOL | The number of frames that have experienced 16 consecutive collisions or more. |
| TX LCOL | The number of transmission abortion due to a collision occurring after transmission of packets that are 64 bytes in length. |
| TX PAUSE | The number of correct transmitted flow-control frames. |
| TX ERR | The number of frames transmitted with an error due to transmit FIFO underflow or TXERR signal assertion |

show port datalink counters (ASR 5500)

Table 453: show port datalink counters Command Output Descriptions (ASR 5500)

| Field | Description |
|---------------------|--|
| Counters for port | The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs. |
| Line Card | Line card type displayed as a text string |
| RX Counters | |
| RX Bytes | The number of received bytes. |
| RX Unicast frames | The number of Unicast frames received. |
| RX Multicast frames | The number of Multicast frames received. |
| RX Broadcast frames | The number of Broadcast frames received. |
| RX Size | The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518 |
| RX OverSize frames | The number of oversized frames received. |
| RX Undersize frames | The number of undersized frames received. |

| Field | Description |
|---------------------------|--|
| RX ExceededMaxSize frames | The number of frames received that exceeded maximum size. |
| RX Fragment frames | The number of fragmented frames received. |
| RX Jabber frames | The number of frames that exceeded 1518 bytes with a bad CRC (long packet error). |
| RX Control frames | The number of control frames received |
| RX Pause frames | The number of pause frames received. |
| RX FCS Error frames | The number of Frame Check Sequence error frames received. |
| RX Length Error frames | The of frames received with length errors. |
| RX Code Error frames | The number of frames received with code errors. |
| RX ExMaxSize Err frames | The number of frames received that included exceeded maximum size errors. |
| Tx Counters | |
| TX Bytes | |
| TX Unicast frames | The number of Unicast frames transmitted. |
| TX Multicast frames | The number of Multicast frames transmitted. |
| TX Broadcast frames | The number of Broadcast frames transmitted. |
| TX Size | The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518 |
| TX OverSize frames | The number of oversized frames transmitted. |
| TX Undersize frames | The number of undersized frames transmitted. |
| TX Fragment frames | The number of fragmented frames transmitted. |
| TX Jabber frames | The number of frames transmitted that exceeded 1518 bytes with a bad CRC (long packet error). |

| Field | Description |
|------------------------|--|
| TX Control frames | The number of control frames transmitted |
| TX Pause frames | The number of pause frames transmitted. |
| TX FCS Error frames | The number of Frame Check Sequence error frames transmitted. |
| TX Length Error frames | The of frames transmitted with length errors. |

show port datalink counters (VPC-SI, VPC-DI)

Table 454: show port datalink counters Command Output Descriptions (VPC-SI, VPC-DI)

| Field | Description |
|---------------------|---|
| Counters for port | The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs. |
| Line Card | Line card type displayed as a text string |
| RX Counters | |
| RX Unicast frames | The number of Unicast frames received. |
| RX Multicast frames | The number of Multicast frames received. |
| RX Broadcast frames | The number of Broadcast frames received. |
| RX Size | The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1522 |
| RX Bytes OK | The number of bytes that were received without error. |
| RX Bytes BAD | The number of bytes that were received with errors. |
| RX SHORT OK | The number of frames, less than 64 bytes in length, received without any error. |
| RX SHORT CRC | The number of frames, less than 64 bytes in length, received with cyclical redundancy check (CRC) error. |

| Field | Description |
|---------------------|--|
| RX OVF | The number of overflows received. |
| RX NORM CRC | The number of frames, with lengths between 64 bytes and the maximum frame size, received with an integral number of bytes and a cyclical redundancy check (CRC) error. |
| RX LONG OK | The number of frames, larger than the maximum frame size, received without any error. |
| RX LONG CRC | The number of frames, larger than the maximum frame size, received with CRC error. |
| RX PAUSE | The number of correct received flow-control frames. |
| RX FALS CRS | The number of false carrier events detected. |
| RX SYM ERR | The number of received frames during which physical (PHY) symbol errors were detected. |
| Tx Counters | |
| TX Unicast frames | The number of Unicast frames transmitted. |
| TX Multicast frames | The number of Multicast frames transmitted. |
| TX Broadcast frames | The number of Broadcast frames transmitted. |
| TX Size | The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1522 - Greater than 1522 |
| TX Bytes OK | The number of bytes that were transmitted without error. |
| TX Bytes BAD | The number of bytes that were transmitted with errors. |
| TX PAUSE | The number of correct transmitted flow-control frames. |
| TX ERR | The number of frames transmitted with an error due to transmit FIFO underflow or TXERR signal assertion |

show port dinet

Displays the DI-network port statistics.

Table 455: show port dinet Command Output Descriptions

| Field | Description |
|--------------|---|
| counters | |
| SLOT/CPU/NPU | Displays the slot, CPU, NPU details of the DI-network port. |
| utilization | |
| SLOT/CPU/NPU | Displays the slot, CPU, NPU details of the DI-network port. |
| bps | Displays bits per second. |
| pps | Displays packets per second. |
| verbose | Displays the option to view complete port details. |

show port info

Displays detailed configuration and functional information for a specified interface port.

The command output varies depending on the type of port interface configured. Three tables are provided for the various port interface types available:

- Ethernet
- Frame Relay (ASR 5000 only)
- ATM (ASR 5000 only)

Table 456: show port info Command Output Descriptions for Ethernet Port Line Card

| Field | Description |
|-------------|---|
| Port Type | The configured port type. Supported Ethernet port types and data transfer rates. |
| Role | The communication role played by this port. <ul style="list-style-type: none"> • Management Port: Port has been designated for remote management access. • Service Port: Port handles subscriber traffic. |
| Description | The textual description given to the port during software configuration. If no description was configured, (None Set) appears in this field. |

| Field | Description |
|---|---|
| Controlled By Card ASR 5000 only | The slot number and type of the front-installed application card to which this Ethernet line card is mapped. |
| Redundancy Mode | The redundancy mode configured for this Ethernet line card port. Possible redundancy modes are: <ul style="list-style-type: none"> • Card: No redundancy will be used. • Port: Port redundancy will be used. |
| Framing Mode ASR 5x00 only | Ethernet |
| Redundant With | The slot number and port number of the Ethernet card that is redundant with this Ethernet line card. If a redundant port is not available, Not Redundant appears in this field. |
| Preferred Port Not for VPC-DI, CF | Indicates if this card will assume revertive (auto-recovery) redundancy functionality should this line card be brought back into service after a failure. |
| Physical ifIndex | The static identification number for the slot/port combination on this Line Card. This ID is used in SNMP traps sent when the link status of the Ethernet port goes up or down. |
| Administrative State | Enabled indicates that this card has been configured for use via software. |
| Configured Duplex ASR 5x00 only | Indicates the port's configured duplex mode. Possible modes are: <ul style="list-style-type: none"> • Auto: The port auto-detects the appropriate mode (Full- or Half-duplex) for communicating with the network. • Full duplex • Half duplex |
| Configured Speed ASR 5x00 only | The maximum data rate configured for this port. Possible rates are: <ul style="list-style-type: none"> • Auto: The port auto-detects the appropriate data rate for communicating on the network. • 10 Mbps • 100 Mbps • 1000 Mbps (ASR 5000: supported on Ethernet 1000 Line Cards, Quad Gigabit Ethernet Line Cards, and SPIO Cards) |

| Field | Description |
|---|--|
| Configured Flow Control ASR 5000 only | Quad Gigabit Ethernet Line Card (QGLC) only: Enabled indicates that Ethernet MAC level flow control has been enabled for this Ethernet port. Note that this is not necessarily the operational state of flow control, as both sides of the connection must agree to flow control during Ethernet negotiation. |
| Interface MAC Address ASR 5500 only | The interface media access control (MAC) address for the port. |
| Fixed MAC Address ASR 5500 only | The fixed media access control (MAC) address for the port. |
| MAC Address ASR 5000 and VPC-SI/VPC-DI | The media access control (MAC) address for the port. If Virtual MAC addressing is enabled, the MAC address is followed by (Virtual) . |
| Boxer Interface TAP ASR 5000 only VPC-DI, SF only | Indicates whether this interface has been tapped for debugging or simulation purposes. |
| Link State | The port's link status: Up or Down . |
| Link Duplex ASR 5x00 only | The actual duplex mode (Auto , Full or Half) currently being used for the link. |
| Link Speed ASR 5x00 only | The actual data rate currently being supported by the port. |
| Flow Control ASR 5x00 only | Indicates the current <i>negotiated</i> state of Ethernet MAC level flow control (Enabled or Disabled . Also see Configured Flow Control above). |
| Link Aggregation Group | If this port is configured as part of a Link Aggregation Group (LAG), this field indicates the group number to which this port belongs and whether the port is a Master or a Member. If the port is not configured as part of a Link Aggregation Group, None appears in this field. |
| (min_link) ASR 5500 only | Indicates the minimum number of links that must be available for this LAG to be up (usable). |
| (mode) | Indicates whether this LAG is redundant or non-redundant. |
| LAG Toggle Link ASR 5000 only | Yes indicates that the QGLC will generate "port link down" and "port link up" events for this LAG port. |

| Field | Description |
|---|--|
| LAG Redundancy Mode | <p>If this port is configured as part of a LAG, this field indicates the Redundancy Mode configured for this Link Aggregation Group:</p> <ul style="list-style-type: none"> • Standard: During failover to the redundant card the amount of bandwidth available will be reduced from what was available for the original LAG. • Switched: Used when the Active LAG ports and are connected to different external switches in the service provider's network. |
| LAG Hold Time | <p>If <i>LAG Redundancy Mode</i> is set to Switched, this field indicates the time, in seconds, that will elapse before the system determines that the failover LAG ports must be switched again. This prevents the system from switching rapidly back and forth between the cards during routine maintenance (for example when Ethernet cables are being removed and reconnected between cards).</p> |
| Link Aggregation Master | <p>If this port is configured as part of a LAG, this field identifies the slot and port number that is the Master of this Link Aggregation Group.</p> |
| Link Aggregation State | <p>Indicates the result of the LACP negotiation.</p> |
| Untagged: <i>(No VLAN IDs have been configured)</i> | |
| Logical ifIndex | <p>The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards.</p> |
| Operational State | <p>The operational state and mode of the card, in the format <state, mode>. Possible operational states are Up or Down.</p> <p>Possible operational modes are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because the card is not installed correctly (for example, the card interlock switch is not locked) or that its software processes have been halted. |
| Tagged VLAN: <i>(VLAN IDs have been configured)</i> | |

| Field | Description |
|------------------------------------|---|
| Logical ifIndex | The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards. |
| VLAN Type | Subscriber indicates that the VLAN has been associated with a subscriber. Standard is not associated with a subscriber. |
| VLAN Priority | The value of the 802.1p priority bit as an integer from 0 through 7, with 7 being the highest priority. (ASN-GW only) |
| Administrative State | Enabled indicates that this card has been configured for use via software. |
| Operational State | The operational state and mode of the VLAN, in the format <state, mode>. Possible operational states are Up or Down. Possible operational modes are: <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because the card is not installed correctly (for example, the card interlock switch is not locked) or that its software processes have been halted. |
| Number of VLANs | The total number of VLANs associated with this port. |
| SFP Module ASR 5x00 only | NOTE: This field appears only for Ethernet line cards that support the use of a small form-factor pluggable (SFP) transceiver module. Refer to the show hardware card command for additional information. |

Table 457: show port info Command Output Descriptions for Frame Relay Port Line Card (ASR 5000)

| Field | Description |
|--------------------|---|
| Port Type | The configured port type: STM1/OC3 Channelized |
| Description | The textual description given to the port during software configuration. If no description was configured, (None Set) appears in this field. |
| Controlled By Card | The slot number and card type of front-installed application card to which this line card is mapped. |

| Field | Description |
|----------------------|--|
| Redundancy Mode | The redundancy mode configured for this line card. Possible redundancy modes are: <ul style="list-style-type: none"> • Card Mode: No redundancy will be used. • Port Mode: Port redundancy will be used. |
| Framing Mode | SDH (default is E1) or SONET (default is DS1) |
| Redundant With | The slot number and port number of the line card that is redundant with this line card. If a redundant port is not available, None appears in this field. |
| Preferred Port | Indicates whether or not this card will assume revertive (auto-recovery) redundancy functionality should this card be brought back into service after a failure. |
| Physical ifIndex | The static identification number for the slot/port combination on this Line Card. This ID is used in SNMP traps sent when the link status of the Ethernet port goes up or down. |
| Administrative State | Enabled indicates that this card has been configured for use via software. |
| Link State | The port's link status: Up or Down . |
| Line Timing | Indicates whether or not this port has been configured to recover a timing clock from the line or port on the peer end of the connection for distribution to all chassis line cards. Line timing can be obtained from the following sources: <ul style="list-style-type: none"> • BITS: Line timing is recovered from the BITS port on the SPIO card • line-timing: Line timing is obtained through the line or port connected to the far end port. • internal clock: The line timing is obtained from the chassis' internal clock source. This internal clock is configured and enabled via the clock-source internal CLI command. |
| SFP Module | This field indicates if a small form-factor pluggable (SFP) module is installed on the card and its type. Possible SFP types are M5 or M6. |

| Field | Description |
|------------------------------------|---|
| Path x e1 y or Path x ds1 y | <p>Identifies a specific routing path configuration (configured with the path command) associated with a frame relay DLCI (data link connection identifier, configured with the dldci command). Information provided includes:</p> <ul style="list-style-type: none"> • The exact mapping of containers (C), virtual containers (VC), tributary units (TU) and/or tributary unit groups (TUG) that is/are appropriate for the configured channel characteristics. For example: tu12-au3 1/1. • The framing mode being used. For ds1 the options are: esf (extended superframe), sf (superframe), and unframed. For e1 the options are: cas (standard mapping with CAS), cas-crc4 (CRC4 mapping with CAS), crc4 mapping and standard mapping. • The mapping mode being used (bit-sync or byte-sync). <p>For each configured path being utilized, the following additional information also is provided (for release 8.1 and later, the following items are configured with the frame-relay command):</p> <ul style="list-style-type: none"> • Timeslots: Identifies the number of timeslot groupings for multiple fractional DS1/E1 channels. The maximum number of timeslots that can be defined is 8. • Frame Relay Intf Type: Indicates the frame relay interface type: DCE (Data Communication Equipment), DTE (Data Terminal Equipment), or NNI (Network to Network interface). The default is DTE. • Frame Relay LMI Type: Indicates the frame relay local management interface (LMI) protocol type: ANSI, CISCO, Q933a, or None. <p>The default is None.</p> |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> • Frame Relay LMI n391: Indicates the number of keep-alive exchanges that will occur before the system requests a full status through the n391 local management interface. Possible values are 1 through 255. The default is 6. • Frame Relay LMI n392: Indicates the Error threshold value. It specifies the total number of errors within the event count specified by n393 local management interface to bring down the link. Possible values are 1 through 10 and default is 2. • Frame Relay LMI n393: Indicates the Monitored Events count. This monitored event count is set for the n392 local management interface. Possible values are 1 through 10. The default is 2. • Frame Relay DLCI: The specific Frame Relay PVC DLCI ID descriptor number associated with this path. • Logical ifindex: The dynamically assigned identification number for the IP interface bound to this Frame Relay PVC DLCI. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards. • Admin State: Enabled Indicates that this Frame Relay DLCI PVC has been configured for use via software. • Operational State: The operational state and mode of the Frame Relay PVC DLCI, in the format <state, mode>. Possible operational states are Up or Down. Possible operational modes are: <ul style="list-style-type: none"> • Active: Indicates that the Frame Relay PVC DLCI is an active component that will be used to process subscriber data sessions. |

| Field | Description |
|-------|---|
| | <ul style="list-style-type: none"> • Standby: Indicates that the Frame Relay PVC DLCI is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that the card is not installed correctly (e.g., the card interlock switch is not locked) or that its software processes have been halted. • Shaping: Indicates the type of egress traffic shaping being used to control flow for this DLCI. Possible values are: cir (Committed Info Rate), cir-eir (Committed Info Rate with Excess Rate), ppr (Peak Packet Rate), and wfq (Weighted Fair Queueing). • Number of DLCI: The number of the Data Link Connection Identifier(s) (DLCI) associated with this timeslot. The DLCI is configured via the dcli command. The DLCI identifies the virtual connection so the receiving end knows which information connection a frame belongs to. • Reserved Bandwidth: The amount of bandwidth (in bits per second) reserved for this E1 or DS1 path. • Number of DLCI: The total number of DLCIs associated with this port |

Table 458: show port info Command Output Descriptions for ATM Line Card (ASR 5000)

| Field | Description |
|--------------------|---|
| Port Type | The configured port type: STM1/OC3 ATM . |
| Description | The description given to the port during software configuration. If no description was configured, (None Set) will be displayed. |
| Controlled By Card | The slot number and type of front installed application card to which this line card is mapped. |
| Redundancy Mode | The redundancy mode of the card. The possible modes are: <ul style="list-style-type: none"> • Normal: Normal card redundancy. • Port: Port redundancy will be used. |
| Framing Mode | SDH (default for E1) or SONET (default for DS1) |
| Redundant With | The slot number and port number of the line card that is redundant with this line card. If a redundant port is not available, None appears in this field. |

| Field | Description |
|----------------------|--|
| Preferred Port | Indicates whether or not this card will assume revertive (auto-recovery) redundancy functionality should this card be brought back into service after a failure. |
| Physical ifIndex | The static identification number for a slot/port combination. This ID is used in SNMP traps sent when the link status of the port goes up or down. |
| Administrative State | Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled appears in this field. |
| Link State | The link status, either Up or Down . |
| Line-timing | Indicates whether or not this port has been configured to recover a timing clock from the line or port on the peer end of the connection for distribution to all chassis line cards. Line timing can be obtained from the following sources: <ul style="list-style-type: none"> • BITS: Line timing is recovered from the BITS port on the SPIO card • line-timing: Line timing is obtained through the line or port connected to the far end port. • internal clock: The line timing is obtained from the chassis' internal clock source. This internal clock is configured and enabled via the clock-source internal CLI command. |
| SFP Module | This field indicates if a small form-factor pluggable (SFP) module is installed on the card and its type. Possible SFP types are M5 or M6. |

| Field | Description |
|---------------------|--|
| PVC VPI xxx VCI yyy | <p>Indicates the virtual path identifier (VPI) and virtual connection identifier (VCI) numbers configured for a Permanent Virtual Connection (PVC).</p> <p>For each defined PVC VPI and VCI, the following associated information also is provided:</p> <ul style="list-style-type: none"> • Traffic Type: Either AAL2 (ATM Adaptation Layer 2) or AAL5 (ATM Adaptation Layer 5). The default is AAL5. • Logical ifIndex: The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards. • Admin State: Enabled indicates that this port has been configured for use via software. • Operational State: The operational state and mode of the card, in the format <state, mode>. Possible operational states are Up or Down. <p>Possible operational modes are:</p> <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that the card is not installed correctly (such as, the card interlock switch is not locked) or that its software processes have been halted. <ul style="list-style-type: none"> • Encapsulation: AAL5 llc-snap (logical link layer encapsulation) or AAL5 vc-mux (virtual circuit multiplexing). |
| | <ul style="list-style-type: none"> • Shaping: The type of traffic shaping (rates) configured for this PVC: cbr (constant bit rate), ubr (unspecified bit rate), ubr+ (unspecified bit rate with minimum cell rate) or vbr (variable bit rate). |
| Number of PVCs/CCs | The total number of PVCs configured for this port. |
| Reserved Bandwidth | The amount of bandwidth (in cells/second) reserved. The bandwidth can be utilized by a single PVC or it can span across multiple PVCs. |

show port npu counters

The output of this command displays four types of counters per counter type:

- Rx Frames
- Rx Bytes
- Tx Frames
- Tx Bytes

Table 459: show port npu counters Command Output Descriptions

| Field | Description |
|----------------------|--|
| Counters for port | The port for which the counters are displayed. The very next line displays the type of line card that the port belongs to. |
| Unicast | The number of Unicast frames and bytes received and transmitted. |
| Multicast | The number of Multicast frames and bytes received and transmitted. |
| Broadcast | The number of Broadcast frames and bytes received and transmitted. |
| IPv4 unicast | The number of Unicast IP version 4 frames and bytes received and transmitted. |
| IPv4 non-unicast | The number of non-Unicast IP version 4 frames and bytes received and transmitted. |
| IPv6 unicast | The number of Unicast IP version 6 frames and bytes received and transmitted. |
| IPv6 non-unicast | The number of non-Unicast IP version 6 frames and bytes received and transmitted. |
| Fragments received | The number of packet fragments qualified for re-assembly. |
| Packets reassembled | The number of packets that were successfully re-assembled. |
| Fragments to kernel | The number of qualified packet fragments that were sent to the kernel for re-assembly. |
| HW error | The number of packets discarded due to first-in, first-out (FIFO) overrun or underrun. |
| Port non-operational | The number of packets discarded due to port not operational. |
| SRC MAC is multicast | The number of packets discarded due to source MAC address is multicast. |
| Unknown VLAN tag | The number of packets discarded due to an unrecognized virtual local area network (VLAN) tag. |

| Field | Description |
|---------------------|--|
| Other protocols | The number of packets discarded due to incorrect protocol type (neither IP or ARP). |
| Not IPv4 | The number of packets discarded due to non IPv4 |
| Bad IPv4 header | The number of packets discarded due to invalid IPv4 header |
| IPv4 MRU exceeded | The number of packets discarded due to packet length is too long. |
| TCP tiny fragment | The number of packets discarded due to TCP tiny fragment |
| No ACL match | The number of packets discarded due to not match from ACL lookup |
| Filtered by ACL | The number of packets discarded due to ACL filter |
| TTL expired | The number of packets discarded because their time-to-live parameter was exceeded. |
| Flow lookup twice | The number of packets discarded due to flow lookup to be performed twice (prevent microcode from looping) |
| Unknown IPv4 class | The number of packets discarded due to unknown classification received from hardware |
| Too short: IP | The number of packets discarded due to IP packet too short |
| Too short: ICMP | The number of packets discarded due to ICMP packet too short for lookup key |
| Too short: IGMP | The number of packets discarded due to IGMP packet too short for lookup key |
| Too short: TCP | The number of packets discarded due to TCP packet too short for lookup key |
| Too short: UDP | The number of packets discarded due to UDP packet too short for lookup key |
| Too short: IPIP | The number of packets discarded due to UDP packet too short for lookup key |
| Too short: GRE | The number of packets discarded due to GRE header size < 8 bytes |
| Too short: GRE key | The number of packets discarded due to GRE header says key present but header size < 13 bytes |
| Don't frag discards | Packets requiring fragmentation that are discarded by the NPU because the IP header don't fragment bit is set. |
| Fragment packets | Packets fragmented by the NPU due to exceeding MTU of egress port. |

| Field | Description |
|------------------------------------|---|
| Fragment fragments | Total number of fragments fragmented by the NPU and sent to the egress port. |
| IPv4VlanMap dropped | Total number of IPv4 VLAN map packets that were dropped. |
| IPSec NATT keep alive | Total number of NAT-Traversal keep alive packets. |
| MPLS Flow not found | Total number of packets dropped when an MPLS flow was not found. |
| MPLS unicast | The number of MPLS Multicast frames and bytes received and transmitted. |
| Size ASR 5000 and VPC-SI | <p>The number of frames and bytes that were received and transmitted according to the following size ranges:</p> <ul style="list-style-type: none"> - Less than 17 - 17 through 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 2047 - 2048 through 4095 - 4096 though 4500 - Greater than 4500 |
| Size ASR 5500 only | <p>The number of frames and bytes that were received and transmitted according to the following size ranges:</p> <ul style="list-style-type: none"> - 0 through 63 - 64 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 2047 - 2048 through 4095 - 4096 though 8191 |

show port table

Table 460: show port table Command Output Descriptions

| Field | Description |
|-------|---|
| Port | Specifies the chassis slot and port numbers (<slot>/<port>) for all installed line cards. |
| Role | The communication role played by this port. <ul style="list-style-type: none"> • Mgmt: Port has been designated for remote management access. • Srvc: Port handles subscriber traffic. |
| Type | The card type descriptor. |
| Admin | Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed. |
| Oper | The operational state of the card – Up or Down . |
| Link | The link status – Up or Down . |
| State | The operational mode of the card that the port belongs to. The card can be in one of the following modes: <ul style="list-style-type: none"> • Active: Indicates that the card is an active component that will be used to process subscriber data sessions. • Standby: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • Offline: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (for example, the card interlock switch is not locked). Refer to the <i>Installation Guide</i> for additional information. |
| Pair | Interface slot/port number of LAG peer port. LAG Port Status: <ul style="list-style-type: none"> • LA+ = Port is actively used for distributing • LA- = Port failed to negotiate LACP • LA~(tilde) = Port negotiated LACP but another peer was selected • LA*(asterisk) = Port is (re)negotiating LACP • LA# = Port has been gone down because the min-link criteria is not met (ASR 5500 only) |

| Field | Description |
|------------------------|---|
| Redundant | Interface slot/port number of redundant LAG peer port. |
| Untagged: | Indicates the administrative, operational, link and active/standby states of an untagged (non-VLAN) port. |
| Tagged: VLAN <vlan_id> | Indicates the administrative, operational, link and active/standby states of a VLAN port. |

show port transceiver (ASR 5500)

Table 461: show port transceiver Command Output Descriptions (ASR 5500)

| Field | Description |
|-----------------------|---|
| Port <slot/port> | Specifies the chassis slot and port number for the port. |
| SFP Transceiver info | Identifies the type of transceiver installed in the port. |
| SFP Vendor info | Vendor Name: Identifies the vendor's name Vendor IEEE ID: Displays the module vendor's IEEE ID. |
| SFP Vendor Rev. info | Displays the revision level for this vendor's module. |
| SFP Parts info | P/N: Displays the vendor's part number for this transceiver. S/N: Displays the vendor's serial number for this module. Date: Displays the vendor's manufacturing date for this module. |
| Nominal Bitrate | Displays the nominal bitrate for this module in megabits per second, |
| Length 50/125um | Core size = 50/125 microns |
| Length 62.5/125um | Core size = 62.5/125 microns |
| Wavelength | Displays the wavelength in nanometers (nm). |
| Diagnostic Monitor | Indicates whether diagnostic monitoring is supported (Yes/No). |
| Internally Calibrated | Indicates whether this module is internally calibrated (Yes/No). |
| Externally Calibrated | Indicates whether this module is externally calibrated (Yes/No). |
| SFF-8472 Compliance | Indicates whether this module complies with SFF-8472 – Diagnostic Monitoring Interface for Optical Transceivers (Yes/No). |

| Field | Description |
|----------------------------|---|
| Alarms | <p>Low Alarm Threshold – trigger value for Low Alarm parameter</p> <p>Low Warn Threshold – trigger value for Low Warning Alarm parameter</p> <p>Actual Value – current actual parameter value</p> <p>High Warn Threshold – trigger value for High Warning Alarm parameter</p> <p>High Alarm Threshold – trigger value for High Alarm parameter</p> |
| Alarm Threshold Parameters | <p>Temp (C) – temperature (Centigrade)</p> <p>Voltage (V) – DC voltage</p> <p>Bias (mA) – laser bias current in milliamperes</p> <p>TxPower (dBm) – transmit power in decibels</p> <p>RxPower (dBm) – receive power in decibels</p> |

show port utilization table



Important The **verbose** option for this command displays port utilization with kilobit accuracy using decimal points.

Table 462: show port utilization table Command Output Descriptions

| Field | Description |
|------------------------------------|---|
| Port <slot/port> | Specifies the chassis slot and port number for the port. |
| Type | Identifies the port type. |
| Average Port Utilization (in mbps) | |
| Current | Displays average current port utilization in megabits per second (Mbps). |
| 5min | Displays average port utilization over the last 5-minute interval in Mbps. |
| 15min | Displays average port utilization over the last 15-minute interval in Mbps. |
| Rx | Displays port utilization for received packets. |
| Tx | Displays port utilization for transmitted packets. |



CHAPTER 109

show ppp

This chapter describes the output of the **show ppp** command.

- [show ppp](#), on page 1763
- [show ppp full username](#), on page 1764
- [show ppp statistics pdsn-service](#), on page 1767

show ppp

Table 463: show ppp Command Output Descriptions

| Field | Description |
|-------------|--|
| PPP Summary | The total number of PPP sessions that are in progress (either active, dormant, being set up, and being disconnected). |
| Layer Info | <p>The layer status for the various control protocols used in the establishing of the PPP status. Information is displayed for the following:</p> <ul style="list-style-type: none">• LCP: Link Control Protocol• IPCP: Internet Protocol Control Protocol• CCP: PPP Compression Control Protocol <p>The information provided represents the total number of sessions that have successfully negotiated the specified control protocol.</p> |

| Field | Description |
|-------------|--|
| Compression | <p>The total number of PPP sessions that meet of each of the following specified characteristics:</p> <p>Sessions using Van Jacobsen (VJ) header compression in either direction (local to remote or remote to local).</p> <p>Sessions using Robust Header Compression (ROHC) in either direction (local to remote or remote to local).</p> <p>Sessions using either the Normal or Stateless compression modes.</p> <p>Sessions using no compression or one of the following compression protocols in either direction (local to remote or remote to local):</p> <ul style="list-style-type: none"> • STAC • MPPC • DEFLATE |
| Errors | <p>The total number of errors recorded for all of the PPP sessions that are in progress (either active, dormant, being set up, and being disconnected). Many of the error statistics are recorded for the receiving (indicated by In) and transmission (indicated by Out) of data packets.</p> |
| Data Stats | <p>Displays cumulative statistics for all of the data received (indicated by In) and transmitted (indicated by Out).</p> |

show ppp full username

Table 464: show ppp full username Command Output Descriptions

| Field | Description |
|-----------|--|
| Username | The subscriber's username. |
| Callid | The subscriber's call identification (callid) number. |
| Msid | The subscriber's mobile station identification (MSID) number. |
| LCP State | Indicates whether or not the Link Control Protocol (LCP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| mtu | The subscriber's maximum transmission unit (MTU) size in octets. |
| mru | The subscriber's maximum reception unit (MRU) size in octets. |

| Field | Description |
|----------------------------------|---|
| auth algorithm | The protocol the subscriber used for authentication. Possible protocols are: <ul style="list-style-type: none"> • CHAP: Challenge Handshake Authentication Protocol • PAP: Password Authentication Protocol |
| PFC (loc to rem): (rem to loc): | The PPP PFC transmit and receive settings. (loc to rem): Specifies how Protocol field Compression is applied for PPP packets transmitted to the Peer. Possible values are: <ul style="list-style-type: none"> • ignore • apply • reject (rem to loc): Specifies whether Protocol Field Compressed PPP packets can be received from the Peer. Possible values are: <ul style="list-style-type: none"> • allow • deny |
| ACFC (loc to rem): (rem to loc): | Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| async map | The PPP asynchronous control character mapping (a 32-bit map). Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| IPCP State | Indicates whether or not the Internet Protocol Control Protocol (IPCP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| IP Header comp | Indicates whether or not Van Jacobsen (VJ) header compression or Robust Header Compression (ROHC) is being implemented for the subscriber's session. If neither, none is displayed. Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| Local Address | The PPP local address for the subscriber session. |
| Remote Address | The IP address assigned to the subscriber's mobile device for the duration of the session. |
| Primary DNS | Indicates the IP address of the primary Domain Name Server (DNS) assigned to the subscriber. |
| Secondary DNS | Indicates the IP address of the secondary Domain Name Server (DNS) assigned to the subscriber. |

| Field | Description |
|--------------------------------|---|
| Primary NBNS | Indicates the IP address of the primary NetBIOS Name Server (NBNS) assigned to the subscriber. |
| Secondary NBNS | Indicates the IP address of the secondary NetBIOS Name Server (NBNS) assigned to the subscriber. |
| IPV6CP State | Indicates whether or not the Internet Protocol v6 Control Protocol (IPV6CP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| In octs(unframed) | The total number of unframed octets received. |
| In pkts | The total number of packets received |
| Out octs(unframed) | The total number of unframed octets sent |
| Out pkts | The total number of packets sent |
| In ctrl octs | The total number of control octets received |
| In ctrl pkts | The total number of control packets received |
| Out ctrl octs | The total number of control octets sent |
| Out ctrl pkts | The total number of control packets sent |
| In framed octs | The total number of framed octets received |
| Out framed octs | The total number of framed octets sent |
| In data (unfr/data-cmp) octs | The total number of unframed data compressed data octets received |
| Out data (unfr/data-cmp) octs | The total number of unframed data compressed data octets sent |
| In data (iphdr-cmp) octs | The total number of data octets with IP header compression received |
| Out data (iphdr-cmp) octs | The total number of data octets with IP header compression sent |
| In data (iphdr-cmp-fail) octs | The total number of data octets with failed IP header compression received |
| In data (iphdr-cmp-fail) pkts | The total number of data packets with failed IP header compression received |
| In data (iphdr-rohc) octs | The total number of data octets with ROHC IP header compression received |
| Out data (iphdr-rohc) octs | The total number of data octets with ROHC IP header compression sent |
| In data (iphdr-rohc-fail) octs | The total number of data octets with failed ROHC IP header compression received |

| Field | Description |
|-------------------------------|---|
| In data(iphdr-rohc-fail) pkts | The total number of data packets with failed ROHC header compression received |
| In discards | The total number of input discards |
| In errors | The total number of input errors |
| Out discards | The total number of output discards |
| Out errors | The total number of output errors |
| Bad address | The total number of bad addresses |
| Bad control | The total number of bad control messages |
| Pkt too long | The total number of packets that were too long |
| Bad FCS | The total number of bad Frame Check Sequences (FCS) |
| Bad pkt length | The total number of bad packet lengths |
| Echo req rcvd | The total number of echo requests received |
| Echo rsp rcvd | The total number of echo responses received |
| Echo req sent | The total number of echo requests sent |
| Echo rsp sent | The total number of echo responses sent |
| Invalid magic-number rcvd | The total number of invalid magic numbers received |

show ppp statistics pdsn-service

Table 465: show ppp statistics pdsn-service Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| PPP statistics for pdsn-service | Indicates the name of the PDSN service for which PPP statistics are being displayed. |
| total sessions initiated | Indicates the total number of subscriber sessions that have been received by the by the system for processing. |
| session re-negotiated | Indicates the total number of subscriber sessions that have been re-negotiated by the by the system. |
| successful sessions | Indicates the total number of subscriber sessions that have been successfully connected by the by the system. |
| failed sessions | Indicates the total number of subscriber sessions that the system has/have failed to process. |

| Field | Description |
|-----------------------------|---|
| total sessions released | Indicates the total number of subscriber sessions that have been disconnected. |
| failed re-negotiations | Indicates the number of PPP calls that failed while LCP or IPCP was being re-negotiated. |
| released by local side | Indicates the total number of subscriber sessions that have been dropped by the system. |
| released by remote side | Indicates the total number of subscriber sessions that have been dropped by the mobile nodes. |
| Session Failures | |
| LCP failure max-retry | Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Link Control Protocol (LCP) retries. |
| LCP failure option-issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options. |
| LCP failure unknown | Indicates the number of calls that failed because of miscellaneous LCP failures. |
| IPCP failure max-retry | Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Internet Protocol Control Protocol (IPCP) retries. |
| IPCP failure option-issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options. |
| IPCP failure unknown | Indicates the number of calls that failed because of miscellaneous IPCP related failures. |
| IPv6CP failure max-retry | Indicates the number of IPv6CP calls that failed after the maximum number of retries. |
| IPv6CP failure option issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over IPv6CP options. |
| IPv6CP failure unknown | Indicates the number of calls that failed because of miscellaneous IPv6CP related failures. |
| Authentication failures | Indicates the number of sessions that were released during setup due to subscriber authentication failures |
| Authentication aborted | Indicates the number of times that authentication was not successful because the peer failed to provide the required request or response packet in time. |

| Field | Description |
|--------------------------------|--|
| remote terminated | Indicates the number of sessions that were released by the mobile node. |
| lower layer disconnected | Indicates the number of times that the peer terminated the lower protocol layer. |
| miscellaneous failures | Indicates the number of session failures that occurred due to reasons other than those listed here. |
| Session Progress | |
| sessions (re)entered LCP | Indicates the number of sessions entering or re-entering the Link Control Protocol (LCP) phase of call setup. |
| sessions (re)entered Auth | Indicates the number of sessions entering or re-entering the authentication phase of call setup. |
| sessions (re)entered IPCP | Indicates the number of sessions entering or re-entering the Internet Protocol Control Protocol (IPCP) phase of call setup. |
| sessions (re)entered IPv6CP | Indicates the number of sessions entering or re-entering the IPv6CP phase of call setup. |
| successful LCP | Indicates the number of calls that completed LCP successfully. |
| successful Authentication | Indicates the number of calls that completed authentication successfully. |
| Session Re-negotiations | |
| initiated by local | Indicates the number of session re-negotiations initiated by the system. |
| initiated by remote | Indicates the number of session re-negotiations initiated by the mobile nodes. |
| address mismatch | Indicates the number of session re-negotiations that occurred due to mis-matched IP addresses. |
| lower layer handoff | Indicates the number of times that the PDSN service renegotiated PPP because of a suspicious RP handoff. |
| parameter update | Indicates the number of times that the PDSN service renegotiated PPP to update some PPP parameters (e.g. DNS address obtained from HA for regular MIP) |
| other reasons | Indicates the number of session re-negotiations that occurred due to reasons other than those listed here. |
| connected session re-neg | Indicates the number of PPP renegotiation happened for sessions which are already in connected/established state. |
| Session Authentication | |

| Field | Description |
|----------------------------------|--|
| CHAP auth attempt | Indicates the number of sessions that attempted to authenticate using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth success | Indicates the number of sessions that successfully authenticated using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth failure | Indicates the number of sessions that failed authentication using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth aborted | Indicates the number of times that CHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time. |
| PAP auth attempt | Indicates the number of sessions that attempted to authenticate using the Password Authentication Protocol (PAP). |
| PAP auth success | Indicates the number of sessions that successfully authenticated using the Password Authentication Protocol (PAP). |
| PAP auth failure | Indicates the number of sessions that failed authentication using the Password Authentication Protocol (CHAP). |
| PAP auth aborted | Indicates the number of times that PAP authorization was aborted due to the fact that the peer failed to provide the required PAP response packet in time. |
| MSCHAP auth attempt | Indicates the number of sessions that attempted to authenticate using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth success | Indicates the number of sessions that successfully authenticated using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth failure | Indicates the number of sessions that failed authentication using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth aborted | Indicates the number of times that MSCHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time. |
| sessions skipped PPP Auth | Indicates the number of sessions that skipped PPP authorization. |
| Session Disconnect reason | |
| remote initiated | Indicates the number of sessions for which the mobile node initiated the disconnection. |
| remote disc. lower layer | Indicates the number of sessions in which the mobile node disconnected the lower layers of the protocol stack. |
| admin disconnect | Indicates the number of sessions for which the system initiated the disconnection. |

| Field | Description |
|---------------------------|--|
| local disc. lower layer | Indicates the number of sessions in which the system disconnected the lower layers of the protocol stack. |
| idle timeout | Indicates the number of sessions disconnected due to exceeding their idle timeout limit. |
| absolute timeout | Indicates the number of sessions disconnected due to exceeding their absolute timeout limit. |
| keep alive failure | Indicates the number of sessions disconnected due to keep alive failures. |
| no resource | Indicates the number of sessions disconnected due to lack of resources on the local side (CPU and memory). |
| flow add failure | Indicates the number of sessions for which the Network Processor Unit (NPU) failed to add a flow. |
| exceeded max LCP retries | Indicates the number of sessions disconnected due to exceeding their maximum number of Link Control Protocol (LCP) retries. |
| exceeded max IPCP retries | Indicates the number of sessions disconnected due to exceeding their maximum number of Internet Protocol Control Protocol (IPCP) retries. |
| exceeded max setup timer | Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for session setup. |
| invalid dest-context | Indicates the number of sessions disconnected due to the specification of an invalid destination context. NOTE: Refer to the System Administration and Administration Reference for additional information about destination contexts and how they are determined. |
| LCP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options. |
| IPCP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options. |
| no remote-ip address | Indicates the number of sessions that were disconnected due to the lack of an IP address for the mobile node. |

| Field | Description |
|-----------------------------------|--|
| call type detect failed | Indicates the number of sessions that were disconnected due to the system not being able to determine what type of service to provide for the session. The possible services are: <ul style="list-style-type: none"> • pdsn-simple-ip • pdsn-mobile-ip • ha-mobile-ip |
| source address violation | Indicates the number of sessions that were disconnected due to source address violations. |
| exceeded max IPv6CP retries | Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for IPv6CP setup. |
| IPv6CP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over IPv6CP options. |
| remote disc. upper layer | Indicates the number of times a session was disconnected because the remote peer disconnected the upper protocol layer. |
| long duration timeout | The number of sessions disconnected due to expiration of the long duration timer. |
| PPP auth failures | The number of sessions that failed due to PPP authorization failures. |
| miscellaneous reasons | Indicates the number of sessions that were disconnected for reasons other than those listed here. |
| Session Data Compression | |
| sessions negotiated comp | Indicates the total number of sessions that negotiated the use data compression. |
| STAC Compression | Indicates the total number of sessions that negotiated the use data compression using the STAC protocol. |
| MPPC compression | Indicates the total number of sessions that negotiated the use data compression using the MPPC protocol. |
| Deflate Compression | Indicates the total number of sessions that negotiated the use data compression using the DEFLATE protocol. |
| CCP negotiation failures | Indicates the number of Compression Control Protocol negotiation failures. |
| Session Header Compression | |
| VJ compression | Indicates the total number of sessions that negotiated the use of Van Jacobsen (VJ) header compression. |

| Field | Description |
|--------------------------|---|
| ROHC Compression | Indicates the total number of sessions that negotiated the use of Robust Header Compression (ROHC). |
| LCP Echo Statistics | |
| total LCP Echo Req. sent | The total number of LCP Echo requests sent to the peer. |
| LCP Echo Req. resent | The total number of LCP echo requests retransmitted to the peer. |
| LCP Echo Reply received | The total number of LCP echo replies received from the peer. |
| LCP Echo Request timeout | The total number of LCP Echo timeouts that occurred since a Reply was not received. |
| Receive Errors | |
| bad FCS errors | Indicates the number of packets received with an invalid Frame Check Sequence (FCS). |
| unknown protocol errors | Indicates the number of packets received with an invalid protocol type. |
| bad Address errors | Indicates the number of packets received with a bad address field. |
| bad control field errors | Indicates the number of packets received with a bad control field. |
| bad pkt length | Indicates the number of packets received with an invalid packet length. |



CHAPTER 110

show prepaid

This chapter describes the output of the **show prepaid** command.

- [show prepaid 3gpp2 statistics, on page 1775](#)
- [show prepaid wimax statistics asngw-service, on page 1776](#)

show prepaid 3gpp2 statistics

Table 466: show prepaid 3gpp2 statistics Command Output Descriptions

| Field | Description |
|---------------------------|---|
| Total pre-paid sessions | The total number of Pre-paid sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued. |
| Current pre-paid sessions | The number of currently active Pre-paid sessions. |
| Total online-auth success | The total number of successful online pre-paid authorizations (credit updates). |
| Total online-auth failure | The total number of failed online pre-paid authorizations (credit updates). |
| Online prepaid errors | The number of online prepaid messaging errors. |
| Initial auth prepaid err❖ | The number of errors, while processing radius responses, specific to radius protocol violations such as authenticator attribute failed validation.❖ |
| Total ptt sessions | The total number of PTT sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued. |
| Current ptt sessions | The number of currently active PTT sessions. |

| Field | Description |
|----------------------------|---|
| Total ptt filtering sess | The total number of PTT filtering sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued. NOTE: A PTT filtering session discards all user traffic that is not sent directly to, or from, the PTT switch. |
| Current ptt filtering sess | The number of currently active PTT filtering sessions. NOTE: A PTT filtering session discards all user traffic that is not sent directly to, or from, the PTT switch. |
| Total non ptt sessions | The total number of non-PTT sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued. |
| Current non ptt sessions | The number of currently active sessions that are not PTT sessions. |
| Total non determined sess | The total number of sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued that can not be determined whether or not they are PTT sessions. |
| Curr non determined sess | The number of currently active sessions that can not be determined whether or not they are PTT sessions. |

show prepaid wimax statistics asngw-service

Table 467: show prepaid wimax statistics asngw-service Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Total prepaid sessions | The total cumulative prepaid sessions processed by this service. |
| Current prepaid sessions | The number of prepaid sessions currently active in this service. |
| Total online-auth success | The total number of authentication success for online prepaid authentication requests. |
| Total online-auth failures | The total number of authentication failures/rejects received for online authentication requests. |
| Online prepaid errors | The number of errors encountered due to the prepaid response message (success) being discarded due to problems like missing appropriate attributes or wrong attribute values though we had received it as access accept from radius server. |
| Initial auth prepaid err | The number of errors, while processing radius responses, specific to radius protocol violations such as authenticator attribute failed validation. |



CHAPTER 111

show process

This chapter describes the output of the **show process** command.

- [show process status, on page 1777](#)

show process status

Displays process listings in the system. The process listing information can be viewed for a card or CPU (or both).

Table 468: show process status Command Output Descriptions for Card or CPU

| Field | Description |
|---------|---|
| USER | Indicates the internal Linux system user, that is, either "root" or "cli". Note The "user" referred here is not the same as context users, local users, or TACACS+ users that are configured in the system. |
| PID | Indicates the process ID. |
| PPID | Indicates the parent process ID. |
| STARTED | Indicates the process starting time. |
| %CPU | Indicates the CPU percentage that the process has used. |
| %MEM | Indicates the memory percentage that the process has used. |
| COMMAND | Displays the command that was used to start the process, along with the arguments used. |



CHAPTER 112

show ps-network

This chapter includes the **show ps-network** command output tables.

- [show ps-network all status, on page 1779](#)
- [show ps-network statistics ranap-only, on page 1781](#)
- [show ps-network statistics sccp-only, on page 1786](#)
- [show ps-network statistics gtpu-only, on page 1788](#)

show ps-network all status



Important In Release 20 and later, HN BGW is not supported. For more information, contact your Cisco account representative.

Table 469: show ps-network all status Command Output Descriptions

| Field | Description |
|-------------------------|---|
| PS Network name | Indicates the name of the Packet Switched (PS) network instance for which status is displayed. |
| Associated SCCP-Network | Indicates the name of the Signalling Connection Control Part (SCCP) network service instance which is associated with the referenced PS network instance. |
| Associated GTPU Service | Indicates the name of the GTP-U service instance which is associated with the referenced PS network instance. |
| GTPU Context Name | Indicates the name of the context in which the GTP-U service instance is configured. |
| SGSN Point Code | Indicates the address of the SGSN in SS7 point code notation which is serving the referenced PS network instance. |
| Status | Indicates the status of the SGSN which is serving the referenced PS network instance. |

| Field | Description |
|-------------------------------------|--|
| Network Status | Indicates the status of network in which the referenced PS network instance is placed. |
| NRI | Indicates the Network Resource Identification (NRI) bit configuration status for the referenced PS network. |
| IDNNS | Indicates the Intra-Domain NAS Node Selector (IDNNS) configuration status for the referenced PS network to transport the NRI value. |
| CORE NODE MAP | Indicates the core node mapping configuration status for the referenced PS network. |
| Initiated Ranap Reset | Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Ranap Reset Ack Timer | The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the SGSN after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Ranap Reset Maximum Retransmissions | Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the SGSN if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Ranap Reset Guard Timer | The timer that the HNB-GW starts after receiving a RESET message from the PS core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives. Important Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs. |
| Global RNC-Id | This group displays the information related to global Radio Network Controller settings for use by the PS core network for HNB-GW service(s) on a chassis. It is configured under the PLMN-ID. |
| MCC | The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID. |

| Field | Description |
|-------|---|
| MNC | The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID. |
| Id | The Radio Network Controller ID provided to HNBs for use by the PS core network for this HNB-GW service. It is configured under the PLMN-ID |

show ps-network statistics ranap-only

Table 470: show ps-network statistics ranap-only Command Output Descriptions

| Field | Description |
|---------------------------|---|
| RANAP | This group displays the statistics of RANAP in a PS network on chassis. |
| Initial UE Tx | Total number of initial UE requests transmitted. |
| Direct Transfer Rx | Total number of Direct Transfer requests received. |
| Direct Transfer Tx | Total number of Direct Transfer responses sent. |
| Reset Rx | Total number of RESET requests received. |
| Reset Tx | Total number of RESET responses sent. |
| Reset Ack Rx | Total number of RESET Ack requests received. |
| Reset Ack Tx | Total number of responses against RESET Ack request sent. |
| Reset Resource Rx | Total number of RESET RESOURCE requests received. |
| Reset Resource Tx | Total number of RESET RESOURCE responses sent. |
| Reset Resource Ack Rx | Total number of RESET RESOURCE Ack requests received. |
| Reset Resource Ack Tx | Total number of responses against RESET RESOURCE Ack request sent. |
| Iu Release Request Tx | Total number of Iu RELEASE requests sent. |
| Iu Release Command Rx | Total number of Iu RELEASE command received. |
| Iu Release Complete Tx | Total number of Iu RELEASE Complete response sent. |
| Paging Request Rx | Total number of Paging requests received. |
| RAB Assignment Request Rx | Total number of RAB assignment requests received. |
| RAB Setup/Mod Rx | Total number of RAB setup or modification requests received. |

| Field | Description |
|------------------------------|---|
| RAB Release Rx | Total number of RAB Release requests received. |
| RAB Assignment Response Tx | Total number of responses against RAB assignment requests sent. |
| RAB Setup/Mod Success Tx | Total number of RAB setup or modification Success response sent. |
| Total RAB Setup/Mod Fail Tx | Total number of RAB setup or modification Fail response sent. |
| RAB Setup/Mod Fail(Local) Tx | Total number of RAB setup or modification Fail response sent where RAB setup or modification failed due to local reason/cause. |
| RAB Release Success Tx | Total number of RAB Release Success response sent. |
| Total RAB Release Fail Tx | Total number of RAB Release Success response sent. |
| RAB Release Fail(Local) Tx | Total number of RAB Release Fail response sent where RAB Release failed due to local reason/cause. |
| RAB Queued Tx | Total number of RAB messages queued for transmission. |
| RAB Setup/Mod Timer Exp | Total number of instances where RAB setup/modification timer expired before process of request. |
| RAB Release Timer Exp | Total number of instances where RAB Release timer expired before process of request. |
| RAB Set/Mod/Rel Local Fail | This group displays the total number of RAB setup or modification or release requests failed due to local reason/cause. |
| Local Failure Cause | This group identifies the local cause for RAB setup or modification or release request failure. |
| Radio Network Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in radio network layer. |
| Invalid Rab Id | Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer. |
| Interaction With Other Proc | Total number of RAB setup or modification or release requests failed as system was interacting with another process. |
| Transport Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Transport layer. |
| Sig Trans Res Fail | Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer. |
| Iu Tran Conn failed to Estab | Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer. |

| Field | Description |
|------------------------------|--|
| Protocol Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Protocol layer. |
| Transfer syntax error | Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer. |
| Asn error(Reject) | Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer. |
| Asn error | Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer. |
| Msg not comp with Rcvr state | Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer. |
| Semantic error | Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer. |
| Asn error(Falsely const msg) | Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer. |
| Miscellaneous Cause | This group identifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table). |
| No Resource Available | Total number of RAB setup or modification or release requests failed due to non availability of resource. |
| Unspecified | Total number of RAB setup or modification or release request failure due to unspecified cause (not listed in this table). |
| <class_name> Class | This group displays the total number of RAB setup or modification or release request failure grouped in Class name <class_name>. Following groups are supported: <ul style="list-style-type: none"> • Conversational Class • Streaming Class • Interactive Class • Background Class • Unknown Class |
| RAB Setup/Mod Rx | Total number of RAB setup or modification requests received for specific class. |
| RAB Setup/Mod Success Tx | Total number of RAB setup or modification success messages sent for specific class. |
| RAB Release Rx | Total number of RAB Release requests received for specific class. |

| Field | Description |
|------------------------------|--|
| Total RAB Setup/Mod Fail Tx | Total number of RAB setup or modification failure messages sent for specific class. |
| RAB Setup/Mod Fail(Local) Tx | Total number of RAB setup or modification failure messages sent for specific class where RAB setup or modification failed due to local reason/cause. |
| RAB Release Success Tx | Total number of RAB Release success messages sent for specific class. |
| Total RAB Release Fail Tx | Total number of RAB Release fail messages sent for specific class. |
| RAB Release Fail(Local) Tx | Total number of RAB Release fail messages sent for specific class where RAB setup or modification failed due to local reason/cause. |
| RAB Queued Tx | Total number of RAB messages queued for processing or transmission. |
| Relocation Request Rx | Total number of RAB Relocation request received by system for this PS network. |
| RAB Setup Rx | Total number of RAB Relocation setup request received by system for this PS network. |
| Relocation Request ACK Tx | Total number of RAB Relocation Ack messages sent against setup request received by system for this PS network. |
| RAB Setup Success Tx | Total number of RAB setup success messages sent against setup request received by system for this PS network. |
| Total RAB Setup Fail Tx | Total number of RAB setup fail messages sent against setup request received by system for this PS network. |
| RAB Setup Fail(Local) Tx | Total number of RAB setup failure messages sent from this system where RAB setup or modification failed due to local reason/cause. |
| Local Failure Cause | This group identifies the local cause for RAB setup or modification or release request failure. |
| Radio Network Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in radio network layer. |
| Invalid Rab Id | Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer. |
| Interaction With Other Proc | Total number of RAB setup or modification or release requests failed as system was interacting with another process. |
| Transport Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Transport layer. |

| Field | Description |
|------------------------------|---|
| Sig Trans Res Fail | Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer. |
| Iu Tran Conn failed to Estab | Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer. |
| Protocol Layer Cause | This group identifies the total number of RAB setup or modification or release request failure due to error in Protocol layer. |
| Transfer syntax error | Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer. |
| Asn error(Reject) | Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer. |
| Asn error | Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer. |
| Msg not comp with Rcvr state | Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer. |
| Semantic error | Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer. |
| Asn error(Falsely const msg) | Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer. |
| Miscellaneous Cause | This group identifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table). |
| No Resource Available | Total number of RAB setup or modification or release requests failed due to non availability of resource. |
| Unspecified | Total number of RAB setup or modification or release request failure due to unspecified cause (not listed in this table). |
| <class_name> Class | This group displays the total number of RAB Setup request grouped in Class name <class_name>. |
| RAB Setup Rx | Total number of RAB setup requests received for specific class. |
| RAB Setup Success Tx | Total number of RAB setup success messages sent for specific class. |
| Total RAB Setup Fail Tx | Total number of RAB setup failure messages sent for specific class. |

| Field | Description |
|-----------------------------|--|
| RAB Setup Fail(Local) Tx | Total number of RAB setup failure messages sent for specific class where RAB setup failed due to local reason/cause. |
| Relocation Detect Tx | Total number of RAB Relocation Detect messages sent by system in this PS network. |
| Relocation Required Tx | Total number of RAB Relocation Required request messages sent by system in this PS network. |
| Fwd SRNS Context Request Tx | Total number of FWD SRNS Context request messages sent by system in this PS network. |
| Relocation Prep Failure Rx | Total number of Relocation Preparation failure response messages sent by system in this PS network. |
| Relocation Cancel Tx | Total number of Relocation cancel command messages received by system in this PS network. |
| Relocation Command Rx | Total number of Relocation command messages received by system in this PS network. |
| Srns Context Request Rx | Total number of SRNS Context Request messages received by system in this PS network. |
| Srns Context Response Tx | Total number of response sent for SRNS Context Request messages received by system in this PS network. |
| <class_name> Class | This group displays the total number of RAB Setup request grouped in Class name <class_name>. |
| RAB Setup Rx | Total number of RAB setup requests received for specific class. |

show ps-network statistics sccp-only



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 471: show ps-network statistics sccp-only Command Output Descriptions

| Field | Description |
|-------|--|
| SCCP | This group displays the statistics of SCCP in a PS network on chassis. |

| Field | Description |
|----------------------------|---|
| SCCP Connection Request Rx | Total number of SCCP connection Request received by HNB-GW from the Core Node. This counter changes when Core Node initiates SCCP connection during Relocation. |
| SCCP Connection Request Tx | Total number of SCCP connection Request sent by HNB-GW towards the CN after getting RUA Connect Request for a Registered UE. This counter changes when RUA Connect Request sent for a Registered UE. |
| SCCP Connection Confirm Rx | Total number of SCCP Connection Confirmation messages received by HNB-GW from the Core Node. This counter changes when CN sends the SCCP connection confirmation for a requested SCCP Connection Request. |
| SCCP Connection Confirm Tx | Total number of SCCP Connection Confirmation response messages sent by HNB-GW to the Core Node. This counter changes when HNB-GW sends the SCCP connection confirmation response for a requested SCCP Connection Request to CN. |
| SCCP Connection Reject Rx | Total number of SCCP Connection Reject messages received by HNB-GW from the Core Node. This counter changes when Core node Rejects the SCCP Conn Request due to some parameter mismatch, etc. |
| SCCP Connection Reject Tx | Total number of SCCP Connection Rejection response messages sent by HNB-GW to the Core Node. This counter changes when HNBGW initiates the tear Down on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios. |
| SCCP Connection Data Rx | Total data received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends the data towards HNB-GW over SCCP connection. |
| SCCP Connection Data Tx | Total data sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends the data towards CN over SCCP connection. |
| SCCP Disconnect Rx | Total number of SCCP Disconnect messages received by HNB-GW from Core Node. This counter changes when CN initiate tear-down procedure for SCCP connection. |

| Field | Description |
|--------------------|--|
| SCCP Disconnect Tx | Total number of SCCP Disconnect response messages sent by HNB-GW to Core Node. This counter changes when HNBGW initiates the tear-down procedure on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios. |
| SCCP Uni Data Rx | Total Connection-less data, like paging, received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends any connection-less data, like paging, towards HNB-GW over SCCP connection. |
| SCCP Uni Data Tx | Total Connection-less data, RANAP Reset, RANAP reset Resource, sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends or forward any Connection-less data, like RANAP reset, RANAP Reset Resource, towards CN over SCCP connection. |

show ps-network statistics gtpu-only



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 472: show ps-network statistics gtpu-only Command Output Descriptions

| Variables | Description |
|---------------------|---|
| GTPU | This group displays the statistics of SCCP in a PS network on chassis. |
| GTPU Fwd Packets Tx | Indicates the total number of packets forwarded by HNB-GW to SGSN over GTP-U connection during a session. This counter increments when a GTP-U packet forwarded by HNB-GW to CN. |
| GTPU Fwd Bytes Tx | Indicates the total number of Bytes forwarded by HNB-GW to SGSN over GTP-U connection during a session. This counter increments when a GTP-U Byte forwarded by HNB-GW to CN. |

| Variables | Description |
|------------------|---|
| GTPU Packets Rx | Indicates the total number of packets received by HNB-GW from SGSN over GTP-U connection during a session. This counter increments when a packet received by HNB-GW from CN. |
| GTPU Packets Tx | Indicates the total number of packets sent by HNB-GW towards SGSN over GTP-U connection during a session. This counter increments when a GTP-U packet sent by HNB-GW to CN. |
| GTPU Bytes Rx | Indicates the total number of bytes received by HNB-GW from SGSN over GTP-U connection during a session. This counter increments when a byte received by HNB-GW from CN. |
| GTPU Bytes Tx | Indicates the total number of bytes sent by HNB-GW towards SGSN over GTP-U connection. Trigger: Increments when a byte sent by HNB-GW to CN. Availability: Across PS Networks |

show ps-network statistics gtpu-only



CHAPTER 113

show quality-of-service-profile

This chapter describes the output of the **show quality-of-service-profile** command.

- [show quality-of-service-profile full name](#), on page 1791

show quality-of-service-profile full name

Table 473: show quality-of-service-profile full name Command Output Descriptions

| Field | Description |
|----------------------------|--|
| QoS Profile Name | Displays the name of the QoS Profile. |
| Description | Displays the description of the QoS Profile. |
| Preferred Traffic Class | Displays the configured preferred traffic class. The preferred traffic class can be: <ul style="list-style-type: none">• Background• Conversational• Interactive• Streaming |
| Quality of Service Capping | |
| Prefer Type | Displays the configured preferred type of Quality of Service capping, the preferred type can be: <ul style="list-style-type: none">• Subscription and Local• Subscription• Local |
| Traffic Class | Displays the configured Traffic Class, the configured Traffic Class can be: <ul style="list-style-type: none">• Background• Conversational• Interactive• Streaming |

| Field | Description |
|-----------------------------------|---|
| Sdu delivery order | Displays if the SDU delivery order is specified or not. |
| Delivery Of Erroneous Sdus | Displays if delivery of erroneous SDUs is configured or not. |
| Max Bit Rate Uplink | Displays the configured Maximum Kbps rate for the uplink direction. |
| Max Bit Rate Downlink | Displays the configured Maximum Kbps rate for the downlink direction. |
| Allocation/Retention Priority | Displays the configured Allocation/Retention priority. |
| Guaranteed Bit Rate Uplink | Displays the Guaranteed Kbps rate for the uplink direction. |
| Guaranteed Bit Rate Downlink | Displays the Guaranteed Kbps rate for the downlink direction. |
| Sdu Max Size | Displays the maximum number of octets (size) of the SDU |
| Minimum Transfer delay | Displays the configured Minimum transfer delay. |
| Sdu Error Ratio | Displays the configured SDU error ratio. |
| Residual BER | Displays the configured residual bit error rate. |
| QoS APN-AMBR | |
| Max uplink | Indicates the aggregate maximum bit rate (AMBR) for uplink (subscriber to network) traffic. |
| Max downlink | Indicates the aggregate maximum bit rate (AMBR) for downlink (network to subscriber) traffic. |
| Sending of epc-qos-params to GGSN | This parameter is used to verify the configuration for EPC QoS support on SGSN. The epc-qos-params-in-gtpv1 command is used to enable or disable the SGSN to send EPC QoS parameters to GGSN. On enabling this command E-ARP and APN-AMBR parameters are included in the GTPV1 SM messages towards the GGSN. The parameter Enabled with GPRS Subs is displayed if the keyword gprs-subscription is selected in the epc-qos-params-in-gtpv1 command. |
| Operator Defined QCI | Indicates if the Operator Specific QCI values are enabled or disabled. |



CHAPTER 114

show radius

This chapter describes the output of the **show radius** command.

- [show radius client status](#), on page 1793
- [show radius counters all](#), on page 1793
- [show radius servers](#), on page 1803

show radius client status

Table 474: show radius client status verbose Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| RADIUS Client Status | The RADIUS client's status as "UP" or "DOWN". |
| Active nas-ip-address | The NAS IP address configured for the client that is currently active. The NAS IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. NOTE: If the RADIUS Client Status is "DOWN", then this field displays "NONE". |
| Configured Primary nas-ip-address | The NAS IP address configured as the primary and the interface's current status as "UP" or "Down". |
| Configured Backup nas-ip-address | The NAS IP address configured as the backup and the interface's current status as "UP" or "Down". |

show radius counters all

Table 475: show radius counters all Command Output Descriptions

| Field | Description |
|--|-------------|
| Per-Context RADIUS Authentication Counters | |
| Access-Request Response | |

| Field | Description |
|---|--|
| Invalid Source Address Received | The number of Access-Request responses received from invalid source addresses. |
| Responses Dropped due to Closed Sockets | The number of responses dropped due to closed sockets. |
| Response Dropped No Matching Request found | The number of responses dropped due to no matching requests. |
| Per-Context Change-of-Authorization Counters | |
| Invalid Source Address Received (RPF check failed) | The number of responses received from invalid source addresses. |
| Server-specific Change-of-Authorization Counters | |
| Change-of-Authorization server address | The IP address and port number of the Change-of-Authorization server. |
| Change-of-Authorization Request received | The number of CoA requests received. |
| Change-of-Authorization Ack sent | The number of CoA acknowledgements sent. |
| Change-of-Authorization Nak sent | The number of CoA negative acknowledgements sent. |
| Change-of-Authorization Nak Unsupported Attribute sent | The number of CoA negative acknowledgements sent with unsupported attribute. |
| Change-of-Authorization Nak Missing Attribute sent | The number of CoA negative acknowledgements sent with missing attribute. |
| Change-of-Authorization Nak NAS Id Mismatch sent | The number of CoA negative acknowledgements with NAS ID mismatch sent. |
| Change-of-Authorization Nak Invalid Request sent | The number of CoA negative acknowledgements with invalid request sent. |
| Change-of-Authorization Nak Unsupported Service sent | The number of CoA negative acknowledgements with unsupported service sent. |
| Change-of-Authorization Nak Sess Context Not Found sent | The number of CoA negative acknowledgements with session context not found sent. |
| Change-of-Authorization Nak Resource Unavailable sent | The number of CoA negative acknowledgements with resource unavailable sent. |
| Change-of-Authorization Malformed Packet Rcvd | The number of CoA message disconnected due to malformed message. |
| Change-of-Authorization Msg-Authenticator Mismatch | The number of CoA message disconnected due to message authenticator failure. |
| Change-of-Authorization Duplicate Request | The number of CoA requests dropped due to duplicate message. |
| Change-of-Authorization Event-Timestamp Check Failed | The number of CoA requests dropped due to Event-Timestamp attribute issues. |

| Field | Description |
|---|---|
| Change-of-Authorization Request Initiated sent | The number of CoA request Initiated sent. |
| Disconnect-Message Request received | The number of Disconnect-Message Requests received. |
| Disconnect-Message Ack sent | The number of Disconnect-Message Acknowledgements sent. |
| Disconnect-Message Ack Residual Session Removed sent | The number of Disconnect-Message Acknowledgements Residual Session Removed sent. |
| Disconnect-Message Nak sent | The number of Disconnect-Message Negative Acknowledgment sent. |
| Disconnect-Message Nak Unsupported Attribute sent | The number of Disconnect-Message Negative Acknowledgment with unsupported attributes sent. |
| Disconnect-Message Nak Missing Attribute sent | The number of Disconnect-Message Negative Acknowledgment with missing attributes sent. |
| Disconnect-Message Nak NAS Id Mismatch sent | The number of Disconnect-Message Negative Acknowledgment with NAS ID mismatch sent. |
| Disconnect-Message Nak Invalid Request sent | The number of Disconnect-Message Negative Acknowledgment with invalid requests sent. |
| Disconnect-Message Nak Unsupported Service sent | The number of Disconnect-Message Negative Acknowledgment with unsupported service sent. |
| Disconnect-Message Nak Session Context Not Found sent | The number of Disconnect-Message Negative Acknowledgment with session context not found sent. |
| Disconnect-Message Nak Context Not Removable sent | The number of Disconnect-Message Negative Acknowledgment with context not removable sent. |
| Disconnect-Message Nak Context Not Removable Dormant | The number of Disconnect-Message Negative Acknowledgment with context not removable dormant. |
| Disconnect-Message Nak Resource Unavailable sent | The number of Disconnect-Message Negative Acknowledgment with resource unavailable sent. |
| Disconnect-Message Malformed Packet Rcvd | The number of Disconnect-Message with malformed packet received. |
| Disconnect-Message Msg-Authenticator Mismatch | The number of Disconnect-Message with message authenticator mismatch. |
| Disconnect-Message Duplicate Request | The number of Disconnect-Message duplicate requests. |
| Disconnect-Message Event-Timestamp Check Failed | The number of Disconnect-Message with event timestamp check failed. |
| Disconnect-Message Request Initiated sent | The number of Disconnect-Message with request initiated sent. |

| Field | Description |
|---|---|
| Change-of-Authorization/Disconnect-Message timeout | The number of messenger timeouts while processing the CoA/Dm messages. This will be displayed only in the hidden mode. |
| Change-of-Authorization/Disc-Message messenger bounce | The number of messenger bounces while processing the CoA/Dm messages. This will be displayed only in the hidden mode. |
| Server-specific Authentication Counters | |
| Authentication server address | The IP address, port number, and server group of the RADIUS authentication server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. |
| Access-Request Sent | The total number of Access Request messages sent by the system to the server. |
| Access-Request with DMU Attributes Sent | The total number of Access Request messages that have been sent to the server with DMU attributes present. |
| Access-Request Pending | The total number of Access Request messages that have been sent to the server that are pending a response. |
| Access-Request Retried | The total number of Access Request messages that have been re-transmitted due to the expiration of the RADIUS timeout parameter. |
| Access-Request with DMU Attributes Retried | The total number of Access Request messages with DMU attributes present that have been re-transmitted due to the expiration of the RADIUS timeout parameter. |
| Access-Challenge Received | The total number of Access Challenges received from the server as part of the authentication process. |
| Access-Accept Received | The total number of Access Accept messages received by the system from the server. |
| Access-Reject Received | The total number of Access Reject messages received by the system from the server. |
| Access-Reject Received with DMU Attributes | The total number of Access Reject messages with DMU attributes present received by the system from the server. |
| Access-Request Timeouts | The total number of times that the configured RADIUS timeout parameter was exceeded causing the system to have to re-send an Access Request message. |
| Access-Request Current Consecutive Failures in a mgr | The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Access-Request messages. |
| Access-Request Response Bad Authenticator Received | The total number of Accept Request responses received by the system from the server that contains a incorrect Authenticator field, thereby failing message authentication. The system drops these messages. |

| Field | Description |
|---|--|
| Access-Request Response Malformed Received | The total number of Accept Request responses received by the system from the server that were malformed. The system drops these messages. |
| Access-accept Malformed Rulebase Received | The total number of authentication responses received with multiple rulebase attributes. |
| Access-Request Response Malformed Attribute Received | The total number of malformed or invalid attributes received in Access-Request response messages. |
| Access-Request Response Unknown Type Received | The total number of Accept Request responses received by the system from the server that contained an unknown message type. The system drops these messages. |
| Access-Request Response Dropped | The total number of Accept Request responses from the server that were dropped. |
| Access-Request Response Last Round Trip Time | The time it took for the system to receive a valid response from the server for the last authentication request. |
| Access-Request Response Average Round Trip Time | The average time it took for the system to receive a valid response from the server for Access Request Response. |
| Prepaid Related Statistic Counters | |
| Online Access-Request Sent | The total number of Online Access Request messages sent. |
| Online Access-Request Pending | The total number of Online Access Request messages pending. |
| Online Access-Request Retried | The total number of Online Access Request messages retried. |
| Online Access-Accept Received | The total number of Online Access Accept messages received. |
| Online Access-Reject Received | The total number of Online Access Reject messages received. |
| Online Access-Request Timeouts | The total number of Online Access Request message timeouts. |
| Online Access-Request Response Bad Authenticator Received | The total number of Online Access Request messages that failed with a bad authenticator. |
| Online Access-Request Response Malformed Received | The total number of Online Access Request Response messages that were malformed. |
| Online Access-Request Response Malformed Attr Received | The total number of Online Access Request Response messages that contained a malformed attribute. |
| Online Access-Request Response Unknown Type Received | The total number of Online Access Request Response messages that are of an unknown type. |
| Online Access-Request Response Bad Message Authenticator | The total number of Online Access Request Response messages that contained a bad message authenticator. |

| Field | Description |
|---|--|
| Online Access-Request Response NO Message Authenticator | The total number of Online Access Request Response messages that contained no message authenticator. |
| Server-specific Probing Counters | |
| State | The state of the RADIUS server. Enabled or Disabled. |
| Number of transactions issued | The total number of transactions issued to the RADIUS server. |
| Number of successful transactions | The total number of complete successful transactions to the RADIUS server. |
| Number of failed transactions | The total number of failed transactions to the RADIUS server. |
| Last successful transaction time | The time of day that the last successful transaction was completed with the RADIUS server. |
| Last failed transaction time | The time of day that the last failed transaction with the RADIUS Server occurred. |
| Last roundtrip time | The amount of time, in milliseconds, that it took from when a request was sent to and acknowledgement was received from the RADIUS server. |
| Server-specific Keepalive Auth Counters | |
| Keepalive Access-Request Sent | The number of keepalive access requests that were sent. |
| Keepalive Access-Request Retried | The number of keepalive access-requests that were retried. |
| Keepalive Access-Request Timeouts | The number of keepalive access-requests that timed out. |
| Keepalive Access-Accept Received | The number of keepalive access-accept messages that were received. |
| Keepalive Access-Reject Received | The number of keepalive access-reject messages that were received. |
| Keepalive Access-Response Bad Authenticator Received | The number of bad authenticator keepalive access-response that were received. |
| Keepalive Access-Response Malformed Received | The number of malformed keepalive-access responses that were received. |
| Keepalive Access-Response Malformed Attribute Received | The number of malformed attributes for keepalive-access responses that were received. |
| Keepalive Access-Response Unknown Type Received | The number of unknown keepalive-access responses that were received. |
| Keepalive Access-Response Dropped | The number of keepalive-access responses that were dropped. |
| Per-Context RADIUS Accounting Counters | |
| Accounting Response | |

| Field | Description |
|--|--|
| Invalid Source Address Received | The number of Accounting responses received from invalid source addresses. |
| Responses Dropped due to Closed Sockets | The number of responses dropped due to closed sockets. |
| Response Dropped No Matching Request found | The number of responses dropped due to no matching requests. |
| Server-specific Accounting Counters | |
| Accounting server address | The IP address, port number, and server group of the RADIUS accounting server, and the UDP port over which the system exchanges accounting data with the server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. |
| Accounting-Request Sent | The total number of Accounting Request messages sent by the system to the server. |
| Accounting-Start Sent | The total number of Accounting sessions that have been established. |
| Accounting-Stop Sent | The total number of Accounting sessions that have been stopped. |
| Accounting-Interim Sent | The total number of Accounting Interim messages that have been sent to the server. This mainly contains the accumulated packets/bytes counts. |
| Accounting-On Sent | The total number of Accounting-on sessions that have been sent. |
| Accounting-Off Sent | The total number of Accounting-off sessions that have been stopped. |
| Accounting-Request Pending | The total number of Accounting Request messages that have been sent to the server that are pending a response. |
| Accounting-Request Retried | The total number of Accounting-requests that have been retried. |
| Accounting-Start Retried | The total number of Accounting-start messages that have been retried |
| Accounting-Stop Retried | The total number of Accounting-stop messages that have been retried. |
| Accounting-Interim Retried | The total number of Accounting-interim messages that have been retried. |
| Accounting-On Retried | The total number of Accounting-on messages that have been retried. |
| Accounting-Off Retried | The total number of Accounting-off messages that have been retried. |

| Field | Description |
|--|---|
| Accounting-Response Received | The total number of Accounting-response messages that have been received. |
| Accounting-Request Timeouts | The total number of Accounting-request messages that have timed out. |
| Accounting-Request Current Consecutive Failures in a mgr | The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Accounting-Request messages. |
| Accounting-Response Bad Response Received | The total number of Accounting-Response messages that failed with a bad authenticator. |
| Accounting-Response Malformed Received | The total number of Accounting-Response responses received by the system from the server that were malformed. |
| Accounting-Response Unknown Type Received | The total number of Accounting-Response responses received by the system from the server that contained an unknown message type. |
| Accounting-Response Dropped | The total number of keepalive Accounting Response messages that were dropped. |
| Accounting-Response Last Round Trip Time | The time it took for the system to receive a valid response from the server for the last Accounting Response. |
| Accounting-Response Average Round Trip Time | The average time it took for the system to receive a valid response from the server for Accounting Responses. |
| Accounting Total G1 (Acct-Output-Octets) | The total number of accounted bytes outputted to user. |
| Accounting Total G2 (Acct-Input-Octets) | The total number of accounted bytes as user input. |
| Server-specific Keepalive Acct Counters | |
| Keepalive Accounting-Request Sent | The total number of keepalive accounting request messages sent. |
| Keepalive Accounting-Request Retried | The total number of keepalive accounting messages retried. |
| Keepalive Accounting-Request Successful | The total number of successful keepalive accounting messages. |
| Keepalive Accounting-Request Timeouts | The total number of keepalive accounting timeout messages. |
| Keepalive Accounting-Response Bad Response Received | The total number of keepalive accounting request response messages that failed with a bad authenticator. |
| Keepalive Accounting-Response Malformed Received | The total number of keepalive accounting request response messages that were malformed. |
| Keepalive Accounting-Response Unknown Type Received | The total number of keepalive accounting request response messages that failed with an unknown type. |

| Field | Description |
|---|---|
| Keepalive Accounting-Response Dropped | The total number of keepalive accounting request response messages that were dropped. |
| Per-Context RADIUS Mediation Accounting Counters | |
| Accounting Response | |
| Invalid Source Address Received | The number of Mediation Accounting responses received from invalid source addresses. |
| Responses Dropped due to Closed Sockets | The number of responses dropped due to closed sockets. |
| Response Dropped No Matching Request found | The number of responses dropped due to no matching requests being found. |
| Server-specific Mediation Accounting Counters | |
| Mediation Accounting server address | The IP address of the RADIUS Mediation accounting server, and the UDP port over which the system exchanges accounting data with the mediation server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. |
| Accounting-Request Sent | Indicates the total number of Accounting-Request messages sent by the system to the Mediation server. |
| Accounting-Start Sent | Indicates the total number of Accounting sessions that have been established with Mediation server. |
| Accounting-Stop Sent | The total number of Accounting sessions that have been stopped by Mediation server. |
| Accounting-Interim Sent | The total number of Accounting-Interim messages that have been sent to the Mediation server. This mainly contains the accumulated packets/bytes counts. |
| Accounting-On Sent | The total number of Accounting-On sessions that have been sent. |
| Accounting-Off Sent | The total number of Accounting-Off sessions that have been stopped. |
| Accounting-Request Pending | The total number of Accounting-Request messages that have been sent to the mediation server that are pending a response. |
| Accounting-Request Retried | The total number of Accounting-Requests that have been retried. |
| Accounting-Start Retried | The total number of Accounting-Start messages that have been retried |
| Accounting-Stop Retried | The total number of Accounting-Stop messages that have been retried. |
| Accounting-Interim Retried | The total number of Accounting-Interim messages that have been retried. |

| Field | Description |
|--|--|
| Accounting-On Retried | The total number of Accounting-On messages that have been retried. |
| Accounting-Off Retried | The total number of Accounting-Off messages that have been retried. |
| Accounting-Response Received | The total number of Accounting-Response that were received. |
| Accounting-Request Timeouts | The total number of Accounting-Request timeouts. |
| Accounting-Request Current Consecutive Failures in a mgr | The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Accounting-Request messages. |
| Accounting-Response Bad Response Received | The total number of Accounting-Response messages that failed with a bad authenticator. |
| Accounting-Response Malformed Received | The total number of Accounting-Response responses received by the system from the server that were malformed. |
| Accounting-Response Unknown Type Received | The total number of Accounting-Response messages received by the system from the Mediation server that contained an unknown message type. The system drops these messages. |
| Accounting-Response Dropped | The total number of Accounting-Response messages from the server that were dropped. |
| Access-Response Last Round Trip Time | The amount of time it took for the system to receive a valid response from the mediation server for the last Access-Response messages. |
| Accounting-Response Average Round Trip Time | The average time it took for the system to receive a valid response from the server for Accounting-Response messages. |

show radius servers

Table 476: show radius servers detail Command Output Descriptions

| Field | Description |
|-------|-------------|
| vvvvv | |

| Field | Description |
|-------|--|
| | <p>Displays information about the type and state of the RADIUS server.</p> <p>From left-to-right, the first character represents the RADIUS server Type as one of the following:</p> <ul style="list-style-type: none"> • (A) - Authentication • (a) - Accounting • (C) - Charging • (c) - Charging Accounting • (M) - Mediation • (m) - Mediation Accounting <p>From left-to-right, the second character represents the RADIUS server Preference as one of the following:</p> <ul style="list-style-type: none"> • (P) - Primary • (S) - Secondary <p>From left-to-right, the third character represents the RADIUS server State as one of the following:</p> <ul style="list-style-type: none"> • (A) - Active • (N) - Not Responding • (D) - Down • (W) - Waiting Accounting-On • (I) - Initializing • (w) - Waiting Accounting-Off • (a) Active Pending • (U) - Unknown <p>From left-to-right, the fourth character indicates the RADIUS server Administrative Status (which is saved in the configuration file for re-establishment at reboot) as one of the following:</p> <p>(E) - Enabled (D) - Disabled</p> <p>From left-to-right, the fifth character indicates whether the RADIUS server's saved Administrative Status may be overridden at the next reboot:</p> <p>(O) - Overridden: (Note: to preserve the desired Administrative State, use the appropriate configuration mode radius [accounting charging charging accounting] server command to reset the</p> |

| Field | Description |
|---|---|
| | admin-status.) (.) - Not Overridden |
| IP | Displays the IP address of the RADIUS server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. |
| Port | Displays the UDP port used to communicate with the RADIUS server. |
| Group | Display the RADIUS server group to which the server belongs. |
| Event History | Displays a historical record of state information for the server including a time/date stamp. |
| Total servers matching specified criteria | Displays the total number of RADIUS servers returned by the execution of the command. |



CHAPTER 115

show rct stats

This chapter describes the output of the `show rct stats` command. RCT refers to the Recovery Control Task that controls automatic failover and restart of other tasks within StarOS.

- [show rct stats, on page 1807](#)
- [show rct stats verbose, on page 1808](#)

show rct stats

Table 477: show rct stats Command Output Descriptions

| Field | Description |
|---|--|
| RCT stats details (Last <i>n</i> Actions) | |
| # | Action number. |
| Action | Text describing the type of action. For example, Migration, Switchover, Shutdown. |
| From | Slot number of the card initiating the action. |
| To | Slot number of the destination card. |
| Start Time | Timestamp for when the action was initiated in the format YYYY-MM-DD+hh:mm:ss.sss. |
| Duration | Duration of the action in seconds. |
| Status | Indicates Success or Failure. |
| RCT stats summary | |
| Migrations | Total number of task migrations. |
| Management Card: | Number of management card migrations. |
| Average time: | Average migration time expressed as n.nnn seconds. |
| Packet Card: | Number of packet card migrations. |

| Field | Description |
|---------------|--|
| Average time: | Average migration time expressed as n.nnn seconds. |
| Switchovers | Total number of switchovers (unplanned and planned) between cards. |
| Average time: | Average switchover time expressed as n.nnn seconds. |

show rct stats verbose

Table 478: show rct stats verbose Command Output Descriptions

| Field | Description |
|---|---|
| RCT stats details (Last <i>n</i> Actions) | |
| # | Action number. |
| Action | Text describing the type of action. For example, Migration, Switchover, Shutdown. |
| Type | Planned or Unplanned |
| From | Slot number of the card initiating the action. |
| To | Slot number of the destination card. |
| Start Time | Timestamp for when the action was initiated in the format YYYY-MMM-DD+hh:mm:ss.sss. |
| Duration | Duration of the action in seconds. |
| Graceful | Displays that Graceful Card Migration functionality (available in Release 21.3 and higher) is enabled or disabled for the given RCT Stat number. In 21.3 and higher releases this functionality is enabled by default and cannot be disabled. |
| Recovered[n] | If any task (sessmgr or aaamgr) is failed during the migration and recovered, this field reports the details like facility, instance, cpu id and pid number. |
| Status | Indicates Success or Failure. |
| RCT stats summary | |
| Migrations | Total number of task migrations. |
| Management Card: | Number of management card migrations. |
| Average time: | Average migration time expressed as n.nnn seconds. |
| Packet Card: | Number of packet card migrations. |

| Field | Description |
|---|---|
| Average time: | Average migration time expressed as n.nnn seconds. |
| Switchovers | Total number of switchovers (unplanned and planned) between cards. |
| Average time: | Average switchover time expressed as n.nnn seconds. |
| RCT stats verbose (Last <i>n</i> Actions) | |
| Stats <n> | Action number. |
| Action | Text describing the type of action. For example, Migration, Switchover, Shutdown. |
| Type | Planned or Unplanned. |
| From | Slot number of the card initiating the action. |
| To | Slot number of the destination card. |
| Start Time | Timestamp for when the action was initiated in the format YYYY-MMM-DD+hh:mm:ss.sss format. |
| Failure Reason | Text string indicating the reason for the failure. For example: "CPU_CRITICAL_TASK_FAILURE". |
| Failure Device | Text string indicating device associated with the failure. For example: "CPU_0". |
| Is Card Usable | Yes or No. |
| Recovery Status | Success or Failure. |
| Facility | Task facility name that caused migration failure. (Success = "N.A."). |
| Instance | Task instance number that caused migration failure. (Success = "N.A."). |
| Duration | Event duration in format: n.nnn sec. |
| Graceful | Displays whether Graceful Card Migration is Enabled (default) or Disabled. Contact Cisco to disable this functionality. |
| Recovered [1] | Displays graceful recovery stats information during card migration, for example: [f:sessmgr, i:6, cpu:50, pid:13170]. |
| Recovered [2] | Displays graceful recovery stats information during card migration, for example: [f:sessmgr, i:3, cpu:50, pid:13167]. |



CHAPTER 116

show resources

This chapter describes the output of the **show resources** command.

- [show resources cpu](#), on page 1811
- [show resources session](#), on page 1812

show resources cpu

Table 479: show resources cpu Command Output Descriptions

| Field | Description |
|-----------------------|---|
| Active CPUs | Displays information for CPUs on packet processing cards and management cards that are in the active mode. |
| Total CPUs | The total number of CPUs on active cards. |
| Highest Load | The highest loading of a processor among all of the active processors. The processor that experienced the loading is identified in the format: (CPU <slot_number>/<processor_number>) |
| Total Memory | The total amount of memory available for all active processors in gigabytes. |
| Total Used | The total amount of memory (in gigabytes) used for all active processors. |
| Least Free | The lowest amount of memory (in megabytes) available to an active processor. The processor with the lowest amount of available memory is identified in the format: (CPU <slot_number>/<processor_number>) |
| Total Temporary Files | The total amount of space for temporary files being maintained in memory. |
| Most Temporary Files | The maximum amount of memory used for temporary files on a specific active processor. The processor on which the memory is being used is identified in the format: (CPU <slot_number>/<processor_number>) |

| Field | Description |
|-----------------------|--|
| Standby CPUs | Displays information for CPUs on packet processing cards and management cards that are in the standby mode. |
| Total CPUs | The total number of CPUs on standby cards. |
| Highest Load | The highest loading of a processor among all of the standby processors. The processor that experienced the loading is identified in the following format: (CPU <slot_number>/<processor_number>) |
| Total Memory | The total amount of memory (in gigabytes) available for all standby processors. |
| Total Used | The total amount of memory (in gigabytes) used for all standby processors. |
| Least Free | The lowest amount of memory (in megabytes) available to an standby processor. The processor with the lowest amount of available memory is identified in the format: (CPU <slot_number>/<processor_number>) |
| Total Temporary Files | The total amount of space for temporary files being maintained in memory. |
| Most Temporary Files | The maximum amount of memory used for temporary files on a specific standby processor. The processor on which the memory is being used is identified in the format: (CPU <slot_number>/<processor_number>) |

show resources session

Table 480: show resources session Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| In-Use Session Managers | |
| Number of Managers | The total number of Session Managers currently in use on processing calls. |
| Capacity | The allowed call capacity for all of the Session Managers currently in use. |
| Usage | The total number of sessions currently active. |
| Busy-Out Session Managers | |
| Number of Managers | The number of Session Manager tasks in a busied-out state and not available to service new sessions. |

| Field | Description |
|---|---|
| Capacity | Indicates the total session capacity of the system. |
| Usage | The number of Session Manager tasks in use. |
| Standby Session Managers: | |
| Number of Managers | The total number of Session Managers currently in standby mode waiting to process calls. |
| <XXXX> Service: | |
| In Use | The total number of configured service sessions that are currently in use processing subscriber sessions. |
| Max Used | The maximum number of service sessions used in processing subscriber sessions. This field displays a timestamp on each peak value and identifies the last time (if any) the peaks were cleared. |
| Limit | The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity licenses and the configuration of the max-subscribers parameter for the services. Note: Not applicable for ASN PC Service. |
| License Status | Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed. NOTE: Not applicable for ASN PC Service. |
| ECS Information: | NOTE: This information is displayed only if Active Charging Service is configured in the non-unified mode. |
| In-Use ACS Managers: | |
| Number of Managers | The total number of ACS Managers currently active processing calls. |
| Capacity | Indicates call capacity of the system as < > min (minimum available ECS sessions), < > typical, and < > max (maximum possible ECS sessions). |
| Usage | The total number of ACS Manager tasks in use. |
| Standby ACS Managers: | |
| Number of Managers | The total number of ACS Managers currently in standby mode. |
| Enhanced Charging Service Service: | |
| In Use | The total number of service sessions that are currently in use. |

| Field | Description |
|---|--|
| Max Used | The maximum number of service sessions used. |
| Limit | The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity license. |
| License Status | Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed. |
| ECS Information: | NOTE: This information is displayed only if Active Charging Service is configured in the unified mode. |
| Capacity | Indicates capacity of the system as < est (estimated available ECS sessions) and < max (maximum possible ECS sessions). |
| Enhanced Charging Service Service: | |
| In Use | The total number of ECS service sessions that are currently in use. |
| Max Used | The maximum number of ECS service sessions used. |
| Limit | The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity license. |
| License Status | Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed. |
| P2P information: | |
| P2P Service: | |
| In Use | The total number of P2P service sessions that are currently in use. |
| Max Used | The maximum number of P2P service sessions used. |
| Limit | The total number of sessions that can be processed by all configured services of this type. |
| License Status | Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed. |



show rlf

This chapter includes the **show rlf** command output tables.

- [show rlf-template all](#), on page 1815
- [show rlf-template name](#), on page 1816
- [show rlf-context-statistics diamproxy verbose](#), on page 1816
- [show rlf-memcache-statistics diamproxy](#), on page 1818

show rlf-template all

Table 481: show rlf-template all Command Output Descriptions

| Field | Description |
|---------------------------|--|
| RLF-Template | The name of the configured RLF Template. |
| Transactions Per Second | Indicates the configured Transactions Per Second (TPS) i.e. the number of messages that can be processed per second. |
| Burst Size | Indicates the configured maximum number of messages (burst) that can be sent out together, at an instant of time. |
| Thresholds (Upper-Lower) | Indicates the configured threshold for rate-limiting the outgoing messages. |
| Delay Tolerance | Indicates the configured maximum number of seconds the messages can be queued before it is processed. |
| Total RLF Templates Found | Indicates the total number of RLF templates being configured. |

show rlf-template name

Table 482: show rlf-template name Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Transactions Per Second | Indicates the configured Transactions Per Second (TPS) i.e. the number of messages that can be processed per second. |
| Burst Size | Indicates the configured maximum number of messages (burst) that can be sent out together, at an instant of time. |
| Thresholds (Upper-Lower) | Indicates the configured threshold for rate-limiting the outgoing messages. |
| Delay Tolerance | Indicates the configured maximum number of seconds the messages can be queued before it is processed. |

show rlf-context-statistics diamproxy verbose

Table 483: show rlf-context-statistics diamproxy verbose Command Output Descriptions

| Field | Description |
|--------------------------|--|
| RLF Context Stats | The name of the context for which the RLF statistics is collected. |
| Template Name | The name of the configured RLF template. |
| Configured TPS | Indicates the configured Transactions Per Second (TPS) for throttling. |
| State | Indicates the current state of the RLF context. |
| Storage | Indicates the method of access to messages. |
| Direction | Indicates the traffic direction. |
| Active Duration In Sec | Total active time since RLF context was created. |
| Current Queue Size | Indicates the outstanding messages in the RLF queue. |
| Average TPS | This is the sum average TPS since RLF became active. |
| Trend TPS | Indicates the trend TPS value for the configured context. |
| Maximum TPS | Indicates the maximum TPS value for the configured context. |
| Minimum TPS | Indicates the minimum TPS value for the configured context. |
| Last 10 Secs Average TPS | Average value of TPS computed for the last 10 seconds. |

| Field | Description |
|--|--|
| Last 20 Secs Average TPS | Average value of TPS computed for the last 20 seconds. |
| Last 60 Secs Average TPS | Average value of TPS computed for the last 60 seconds. |
| Last 5 Mins Average TPS | Average value of TPS computed for the last 5 minutes. |
| Last 10 Mins Average TPS | Average value of TPS computed for the last 10 minutes. |
| Average executed Bypass TPS | Indicates the effective TPS when "rlf-bypass" is configured. |
| Last 10 Secs Average executed Bypass TPS | Average value of TPS computed for the last 10 seconds when RLF bypass is executed. |
| Last 30 Secs Average executed Bypass TPS | Average value of TPS computed for the last 30 seconds when RLF bypass is executed. |
| Last 60 Secs Average executed Bypass TPS | Average value of TPS computed for the last 60 seconds when RLF bypass is executed. |
| Last 5 Mins Average executed Bypass TPS | Average value of TPS computed for the last 5 minutes when RLF bypass is executed. |
| Last 10 Mins Average executed Bypass TPS | Average value of TPS computed for the last 10 minutes when RLF bypass is executed. |
| Num of times threshold exceeded | Number of times messages queued when RLF was in "OVER THRESHOLD" state. |
| Num of times queued | Number of times the messages are queued in RLF module. |
| Num of times dropped | Number of times the messages are dropped due to the RLF being full. |
| Num of times msg sent out directly | Number of times the messages that are sent directly when RLF bypass is not executed. |
| Num of times queue bypassed | Number of messages sent out when "rlf-bypass" was configured. |
| Num of times send message cb failed | Number of times the registered application callbacks failed after sending out a RLF message. |
| Num of times rlf status update cb failed | Number of times the registered application callbacks failed after sending out a RLF status update. |
| Diamproxy Instance Level Details | Shows the statistics details at each Diamproxy instance level. |

show rlf-memcache-statistics diamproxy

Table 484: show rlf-memcache-statistics diamproxy Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Cache Pool For RLF Messages | |
| Block-Size | The size of block. |
| Blocking-Factor | Number of elements in block. |
| Blocks-In-Use | Number of blocks in use. |
| Total-Blocks | Total number of elements that are currently used. |
| Free-Blocks | Total number of elements that are currently unused. |
| Frequency | Indicates how many times the memory direct allocate is used. |
| Current Memory in Use | Indicates the current memory used for direct allocation. |



CHAPTER 118

show rohc

This chapter describes the output of the **show rohc** command variants.

- [show rohc statistics, on page 1819](#)

show rohc statistics

Table 485: show rohc statistics Command Output

| Field | Description |
|------------------------|--|
| Compressor Statistics: | |
| Active contexts: | Number of active ROHC (Robust Header Compression) contexts currently available in the system |
| Total setup: | Total number of Contexts created till now since the time the stats were being collected. |
| Total deleted: | Total number of Contexts destroyed till now since the time the stats were being collected. |
| Messages(TX): | Messages that were sent from the Compressor |
| IR: | Number of ROHC IR packets |
| IR-DYN: | Number of ROHC IR Dynamic packets |
| Type0: | Number of ROHC Type -0 packets |
| Type1: | Number of ROHC Type-1 packets |
| Type2: | Number of ROHC Type-2 packets |
| Normal: | Number of ROHC Uncompressed packets |
| Feedback(RX): | All Feedback messages received by compressors |
| ACK: | Number of ROHC Feedback Ack received |

| Field | Description |
|------------------|--|
| NACK: | Number of ROHC Feedback NACK received |
| Static-NACK: | Number of ROHC Feedback STATIC NACK received |
| Error: | Number of Feedback packets that had errors. |
| Misc: | |
| Mode change: | Number of ROHC Mode changes |
| Profile change: | Number of ROHC Profile changes |
| State change: | Number of ROHC state changes |
| Pkts(TX): | Packets Transmitted |
| Pkts Sent: | Number of Packets sent |
| Bytes Sent: | Number of bytes sent |
| Pkts Processed: | Number of input packets discarded |
| Pkts Discarded: | Number of input packets processed. |
| Segmentation: | Number of input packets that were segmented. |
| Segment Pkts: | Number of ROHC segment packets |
| Only Feedback: | Number of ROHC feedbacks that were NOT piggybacked to other ROHC packets |
| Piggyback FB: | Number of ROHC feedbacks that were piggybacked to other ROHC packets |
| Only FB packets: | Number of ROHC packets that carry ONLY multiple ROHC feedbacks. |
| Efficiency(TX): | Transmission Efficiency |
| Uncomp Hdr: | Number of uncompressed headers |
| Compressed Hdr: | Number of compressed headers |
| Percentage comp: | Percentage comparison |
| Histogram(TX): | Transmission Histogram |
| Size: < 2: | Number less than 2 |
| Size: < 4: | Number less than 4 |
| Size: < 8: | Number less than 8 |
| Size: < 16: | Number less than 16 |

| Field | Description |
|--------------------------|--|
| Size: > 16: | Number greater than 16 |
| Decompressor Statistics: | |
| Active contexts: | Number of active ROHC contexts currently available in the system |
| Total setup: | Total number of Contexts created till now since the time the stats were being collected. |
| Total deleted: | Total number of Contexts destroyed till now since the time the stats were being collected. |
| Messages(RX): | Received ROHC messages |
| IR: | Number of ROHC IR packets |
| IR-DYN: | Number of ROHC IR Dynamic packets |
| Type0: | Number of ROHC Type -0 packets |
| Type1: | Number of ROHC Type-1 packets |
| Type2: | Number of ROHC Type-2 packets |
| Normal: | Number of ROHC Uncompressed packets |
| Feedback(TX): | |
| ACK: | Number of ROHC Feedback Ack received |
| NACK: | Number of ROHC Feedback NACK received |
| Static-NACK: | Number of ROHC Feedback STATIC NACK received |
| Error: | Number of Feedback packets that had errors. |
| Errors(RX): | Errors in received ROHC pkts |
| Checksum: | Number of packets discarded due to checksum errors |
| State mismatch: | Number of packets discarded due to state mismatch |
| Parse error: | Number of packets discarded due to parsing errors |
| Memory: | Number of packets discarded due to memory constraints |
| Other error: | Number of packets discarded due to unclassified errors |
| Reassembly errors: | Number of packets discarded due to reassembly errors |
| Misc: | |
| Mode change: | Number of ROHC Mode changes |
| Profile change: | Number of ROHC Profile changes |

| Field | Description |
|------------------|--|
| State change: | Number of ROHC state changes |
| Pkts(RX): | Received ROHC packets |
| Pkts Rcvd: | Number of Packets received |
| Bytes Rcvd: | Number of bytes received |
| Decomp Pkts: | Number of decompressed packets sent out |
| Pkts Discarded: | Number of received packets discarded |
| Segmentation: | Number of output packets that got segmented. |
| Segment Pkts: | Number of ROHC segment packets received |
| Only Feedback: | Number of ROHC feedbacks that were NOT piggybacked to other ROHC packets |
| Piggyback FB: | Number of ROHC feedbacks that were piggybacked to other ROHC packets |
| Only FB packets: | Number of ROHC packets that carry ONLY multiple ROHC feedbacks. |
| Pkts(TX): | Transmitted ROHC packets |
| Pkts Sent: | Number of ROHC packets sent out |
| Bytes Sent: | Number of bytes sent out |
| Piggyback FB: | Number of Feedback packets sent as piggy back |
| Direct FB: | Number of Feedback packets sent without piggy back |
| Efficiency(RX): | Transmission Efficiency |
| Uncomp Hdr: | Number of uncompressed headers |
| Compressed Hdr: | Number of compressed headers |
| Percentage comp: | Percentage comparison |
| Histogram(RX): | Transmission Histogram |
| Size: < 2: | Number less than 2 |
| Size: < 4: | Number less than 4 |
| Size: < 8: | Number less than 8 |
| Size: < 16: | Number less than 16 |
| Size: > 16: | Number greater than 16 |



CHAPTER 119

show rp

This chapter describes the output of the **show rp** command.

- [show rp](#), on page 1823
- [show rp full username](#), on page 1827
- [show rp statistics pdsn-service](#), on page 1832

show rp

Table 486: show rp Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| RP Summary | |
| RP Sessions In Progress | Indicates the total number of sessions being facilitated. |
| Registration Request/Reply | |
| Renew RRQ Accepted | Indicates the total number of registration request renewals accepted. |
| Discarded | Indicates the total number of registration requests that have been discarded. |
| Intra PDSN Active H/O RRQ Accept | The number of intra PDSN handoffs accepted for the session when it was active. |
| Intra PDSN Dormant H/O RRQ Accept | The number of intra PDSN handoffs accepted for the session when it was dormant. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Inter PDSN Handoff RRQ Accepted | Indicates the total number of registration requests for inter-PDSN handoffs that have been accepted. |
| Reply Send Error | Indicates the total number of registration replies for which errors were experienced during transmission. |

| Field | Description |
|--|--|
| Registration Update/Ack | |
| Initial Update Transmitted | Indicates the total number of registration updates that have been transmitted. |
| Update Retransmitted | Indicates the total number of registration updates that have been re-transmitted. |
| Denied | Indicates the total number of registration updates that have been denied by the PCF. |
| Not Acknowledged | Indicates the total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF. |
| Reg Ack Received | Indicates the total number of registration acknowledgements that have been discarded. |
| Reg Ack Discarded | Indicates the total number of registration acknowledgements that have been received. |
| Update Send Error | Indicates the total number of registration updates for which errors were experienced during transmission. |
| Registration Update Send Reason | |
| Lifetime Expiry | Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session. |
| Upper Layer Initiated | Indicates the total number of registration updates that were initiated by upper processing layers. |
| Other Reasons | Indicates the total number of registration updates that were sent due to reasons other than those listed here. |
| Handoff Release | Indicates the total number of registration updates that were sent due to handoff releases. |
| Session Manager Died | Indicates the total number of registration updates that were sent due to the termination of Session Manager tasks. NOTE: If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem. |
| Registration Update Denied | |
| Reason Unspecified | Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified). |

| Field | Description |
|----------------------------|--|
| Admin Prohibited | Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |
| PDSN Failed Authentication | Indicates the total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Update | Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request). |
| Session Update/Ack | |
| Initial Update Transmitted | Indicates the total number of session updates that have been transmitted. |
| Update Retransmitted | Indicates the total number of session updates that have been re-transmitted. |
| Denied | Indicates the total number of session updates that have been denied by the PCF. |
| Not Acknowledged | Indicates the total number of session updates that have not been acknowledged by the PCF. |
| Sess Update Ack Received | Indicates the total number of session acknowledgements that have been received. |
| Sess Update Ack Discarded | Indicates the total number of session acknowledgements that have been discarded. |
| Sess Update Send Error | Indicates the total number of session updates for which errors were experienced during transmission. |
| Session Update Send Reason | |
| Always On | Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature. |
| QoS Info | This is a session update statistic that is not supported at this time. |
| QoS Update Reason | |
| TFT Violation | Indicates that a TFT violation is the reason for QoS update. |
| Traffic Violation | Indicates that a traffic violation is the reason for the QoS update. |

| Field | Description |
|------------------------------|---|
| Traffic Policing | Indicates that a traffic policing action is the reason for the QoS update |
| Operator Triggered | Indicates that an operator triggered the QoS update. |
| Session Update Denied | |
| Reason Unspecified | Indicates the total number of session updates denied with a code of 80H (Session Denied - reason unspecified). |
| Insufficient Resources | Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources). |
| Admin Prohibited | Indicates the total number of denied session updates denied with a status code of 81H (Session Denied - administratively prohibited). |
| Parameter not updated | Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources). |
| PDSN Failed Authentication | Indicates the total number of denied session updates denied with a status code of 83H (Session Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of denied session updates denied with a status code of 85H (Session Denied - identification mismatch). |
| Poorly Formed Update | Indicates the total number of denied session updates denied with a status code of 86H (Session Denied - poorly formed request). |
| Data | |
| GRE Packets Received | Indicates the total number of Generic Routing Encapsulation (GRE) packets received. |
| GRE Bytes Received | Indicates the total number of Generic Routing Encapsulation (GRE) bytes received. |
| GRE Packets Sent | Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted. |
| GRE Bytes Sent | Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted. |
| GRE Packets Sent in SDB Form | This indicates the total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| GRE Bytes Sent in SDB Form | This indicates the total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| GRE Segmentation | |

| Field | Description |
|---|--|
| Total Packets Received with segmentation indication | Indicates the total number of Generic Routing Encapsulation (GRE) packets received with segmentation indication. |
| Total Packets Sent with segmentation indication | Indicates the total number of Generic Routing Encapsulation (GRE) packets sent with segmentation indication. |
| Total successful reassembly | Indicates the total number of Generic Routing Encapsulation (GRE) packets that were successfully reassembled. |
| Total packets processed without proper reassembly | Indicates the total number of Generic Routing Encapsulation (GRE) packets that were processed without proper reassembly. |

show rp full username

Table 487: show rp full username Command Output Descriptions

| Field | Description |
|--------------------|---|
| Username | The subscriber's username. |
| Callid | The subscriber's call identification (callid) number. |
| Msid | The subscriber's mobile station identification (MSID) number. |
| MN Sess Ref ID | The reference identification (Ref ID) number received from the mobile node. |
| GRE Key | The Generic Routing Encapsulation (GRE) key used with the subscribers session. |
| PCF Address | The IP address of the Packet Control Function (PCF) facilitating the subscriber's session. |
| PDSN Address | The IP address of the R-P interface on the Packet Data Service Node's that is facilitating the subscriber's session. |
| Lifetime | The maximum time that the session A10 connection can exist before it becomes expired. This value is assigned by the PDSN. |
| Remaining Lifetime | Remaining RP lifetime for the session. |
| SPI | The particular Security Parameter Index (SPI) that associates the PDSN and the PCF facilitating the session. |
| Service Option | RP service option for the session. |
| Flow Control State | Displays the Flow Control State for the session. |
| Prev System Id | System ID of the previous PCF for the session. |
| Current System Id | System ID of the current PCF for the session. |

| Field | Description |
|-----------------------------------|--|
| Prev Network Id | Network ID of the previous PCF for the session. |
| Current Network Id | Network ID of the current PCF for the session. |
| Prev Packet Zone Id | Packet zone ID of the previous PCF for the session. |
| Current Packet Zone Id | Packet zone ID of the current PCF for the session. |
| BSID | Base transceiver Station ID (Base Station ID) of the current PCF |
| A 10 Connection | |
| GRE Receive | |
| Total Packets Rcvd | The total number of packets received for the A10 connection. |
| Total Bytes Rcvd: | The total number of bytes received for the A10 connection. |
| GRE Send | |
| Total Packets Sent | The total number of packets sent for the A10 connection. |
| Total Bytes Sent: | The total number of bytes sent for the A10 connection. |
| Data Over Signaling Packets: | The total number of Data Over Signaling packets sent for the A10 connection. |
| Data Over Signaling Bytes: | The total number of Data Over Signaling bytes sent for the A10 connection. |
| Registration Request/Reply | |
| Renew RRQ Accepted | The total number of registration request renewals accepted. |
| Discarded | The total number of registration requests replies that have been discarded. |
| Intra PDSN Active H/O RRQ Accept | The number of intra PDSN handoffs accepted for the session when it was active. |
| Intra PDSN Dormant H/O RRQ Accept | The number of intra PDSN handoffs accepted for the session when it was dormant. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Inter PDSN Handoff RRQ Accepted | The total number of registration requests for inter-PDSN handoffs that have been accepted. |
| Reply Send Error | The total number of registration replies for which errors were experienced during transmission. |
| Registration Update/Ack | |

| Field | Description |
|--|--|
| Initial Update Transmitted | The total number of registration updates that have been transmitted. |
| Update Retransmitted | The total number of registration updates that have been re-transmitted. |
| Denied | The total number of registration updates that have been denied by the PCF. |
| Not Acknowledged | The total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF. |
| Reg Ack Received | The total number of registration acknowledgements that have been received. |
| Reg Ack Discarded | The total number of registration acknowledgements that have been received. |
| Update Send Error | The total number of registration updates for which errors were experienced during transmission. |
| Registration Update Send Reason | |
| Lifetime Expiry | The total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session. |
| Upper Layer Initiated | The total number of registration updates that were initiated by upper processing layers. |
| Other Reasons | The total number of registration updates that were sent due to reasons other than those listed here. |
| Handoff Release | The total number of registration updates that were sent due to handoff releases. |
| Session Manager Exited | The total number of registration updates that were sent due to the termination of Session Manager tasks. NOTE: If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem. |
| Registration Update Denied | |
| Reason Unspecified | The total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified). |
| Admin Prohibited | The total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |

| Field | Description |
|----------------------------|--|
| PDSN Failed Authentication | The total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication). |
| Identification Mismatch | The total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Update | The total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request). |
| Session Update/Ack | |
| Initial Update Transmitted | Indicates the total number of session updates that have been transmitted. |
| Update Retransmitted | Indicates the total number of session updates that have been re-transmitted. |
| Denied | Indicates the total number of session updates that have been denied by the PCF. |
| Not Acknowledged | Indicates the total number of session updates that have not been acknowledged by the PCF. |
| Sess Update Ack Received | Indicates the total number of session acknowledgements that have been received. |
| Sess Update Ack Discarded | Indicates the total number of session acknowledgements that have been discarded. |
| Sess Update Send Error | Indicates the total number of session updates for which errors were experienced during transmission. |
| Session Update Send Reason | |
| Always On | Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature. |
| QoS Info | This is a session update statistic that is not supported at this time. |
| QoS Update Reason | |
| TFT Violation | Indicates that a TFT violation is the reason for QoS update. |
| Traffic Violation | Indicates that a traffic violation is the reason for the QoS update. |
| Traffic Policing | Indicates that a traffic policing action is the reason for the QoS update |
| Operator Triggered | Indicates that an operator triggered the QoS update. |

| Field | Description |
|----------------------------|---|
| Session Update Denied | |
| Reason Unspecified | Indicates the total number of session updates denied with a code of 80H (Session Denied - reason unspecified). |
| Insufficient Resources | Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources). |
| Admin Prohibited | Indicates the total number of denied session updates denied with a status code of 81H (Session Denied - administratively prohibited). |
| Parameter not updated | Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources). |
| PDSN Failed Authentication | Indicates the total number of denied session updates denied with a status code of 83H (Session Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of denied session updates denied with a status code of 85H (Session Denied - identification mismatch). |
| Poorly Formed Update | Indicates the total number of denied session updates denied with a status code of 86H (Session Denied - poorly formed request). |
| Profile ID Not Supported | Indicates that the profile ID is not supported. |
| Handoff in Progress | Indicates that a handoff is in progress. |
| GRE Receive | |
| Total Packets Received | The total number of Generic Routing Encapsulation (GRE) packets received. |
| Protocol Type Error | The total GRE packets received with an unsupported protocol field in the header. |
| Total Bytes Received | The total number of Generic Routing Encapsulation (GRE) bytes received. |
| GRE Key Absent | The number of GRE packets received without a GRE key in the header. |
| GRE Checksum Error | GRE packets received that had a checksum error. |
| Invalid Packet Length | GRE packets received with invalid packet length. |
| GRE Send | |
| Total Packets Sent | The total number of Generic Routing Encapsulation (GRE) packets transmitted. |

| Field | Description |
|---|---|
| Total Bytes Sent | The total number of Generic Routing Encapsulation (GRE) bytes transmitted. |
| Total Packets Sent in SDB | The total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| Total Bytes Sent in SDB | The total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| GRE Flow Control | |
| Total Packets Received with XOFF | The total number of packets received for this username while the flow control was set to XOFF. |
| Total Packets Received with XON | The total number of packets received for this username while the flow control was set to XON. |
| Total XON->XOFF Transactions | The total number of times the flow control indicator was changed from XON to XOFF for sessions involving this username. |
| Total Output Packets Dropped on XOFF | The total number of packets dropped after receiving an XOFF flow control command from the RAN. |
| Total Output Bytes Dropped on XOFF | The total number of bytes dropped after receiving an XOFF flow control command from the RAN. |
| Total RP sessions matching specified criteria | The total number of sessions that had the username specified on the command line. |

show rp statistics pdsn-service

Table 488: show rp statistics pdsn-service Command Output Descriptions

| Field | Description |
|------------------------|--|
| PDSN Service | Displays the name of the PDSN services for which the statistics were gathered. |
| Session Stats | |
| Total Sessions Current | Indicates the total number of sessions that are in progress. These could be either active, dormant, being set up, or being disconnected. |
| Total Setup | Indicates the total number of sessions that have been successfully set up since system started. |
| Total Released | Indicates the total number of sessions that have successfully been disconnected. |

| Field | Description |
|--------------------------------------|--|
| Total Rev-A Sessions Current | Indicates the total number of Rev-A sessions that are in progress. |
| Total Rev-A Setup | Indicates the total number of Rev-A sessions that have been successfully set up since system started. |
| Total Rev-A Released | Indicates the total number of Rev-A sessions that have successfully been disconnected. |
| Total Downgraded from Rev-A to Rev-0 | Indicates the total number of Rev-A sessions that have successfully been downgraded from Rev-A to Rev-0. |
| Session Releases | |
| De-registered | Indicates the total number of sessions that were disconnected through a normal de-registration process. |
| Lifetime Expiry | Indicates the total number of sessions that were disconnected due to the expiration of their lifetime timer. |
| PPP Layer Command | Indicates the number of sessions disconnected due to PPP initiating a tear-down. |
| PCF-Monitor Fail | The total number of sessions disconnected because the PCF monitor function detected that the PCF was down. |
| GRE Key Mismatch | The total number of sessions disconnected because the GRE key changed for a session. |
| Purged via Audit | The total number of sessions disconnected due to audit failures on session recovery. |
| Other Reasons | Indicates the number of sessions disconnected due to reasons other than those listed here. |
| Registration Request/Reply | |
| Total RRQ/Renew/Dereg RX | The total number of registration requests, renewals, and de-registrations received. |
| Total Accept | The total number of registration requests that have been accepted. |
| Total Denied | The total number of registration requests that have been rejected. |
| Total Discard | The total number of registration requests that have been discarded. |
| Init RRQ RX | The total number of initial registration requests that have been received. |
| Init RRQ Accept | The total number of initial registration requests received and accepted. |
| Init RRQ Denied | The total number of initial registration requests received and rejected. |

| Field | Description |
|-----------------------------|---|
| Init RRQ Discard | The total number of initial registration requests that have been received and discarded. |
| Init Setup/Start RRQ RX | The total number of initial setup or start registration requests that have been received. |
| Init Setup/Start RRQ Denied | The total number of initial start or setup registration requests that have been received and rejected. |
| Init Setup/Start RRQ Acc | The total number of initial start or setup registration requests that have been received and accepted. |
| Init Setup/Start RRQ Dis | The total number of initial start or setup registration requests that have been received and discarded. |
| Renew RRQ RX | The total number of registration request renewals received. |
| Renew RRQ Accept | The total number of registration request renewals received and accepted. |
| Renew RRQ Denied | The total number of registration request renewals received and rejected. |
| Renew RRQ Discard | The total number of registration request renewals received and discarded |
| Renew No Airlink RX | The total number of registration request renewals received due to "No airlink". |
| Renew No Airlink Accept | The total number of registration request renewals received due to "No airlink" and accepted. |
| Renew No Airlink Denied | The total number of registration request renewals received due to "No airlink" and denied. |
| Renew No Airlink Discard | The total number of registration request renewals received due to "No airlink" and discarded. |
| Renew Actv Start RX | The total number of RRQ renewals with an Active Start record received. |
| Renew Actv Start Accept | The total number of RRQ renewals with an Active Start record received and accepted. |
| Renew Actv Start Denied | The total number of RRQ renewals with an Active Start record received and denied. |
| Renew Actv Start Discard | The total number of RRQ renewals with an Active Start record received and discarded. |
| Renew Actv Stop RX | The total number of RRQ renewals with an Active Stop record received. |

| Field | Description |
|---|--|
| Renew Actv Stop Accept | The total number of RRQ renewals with an Active Stop record received and accepted. |
| Renew Actv Stop Denied | The total number of RRQ renewals with an Active Stop record received and denied. |
| Renew Actv Stop Discard | The total number of RRQ renewals with an Active Stop record received and discarded. |
| Dereg Active Stop Accept | The total number of de-registration requests with an active stop that were accepted. |
| Dereg RRQ RX | The total number of de-registration requests that have been received. |
| Dereg RRQ Accept | The total number of de-registration requests received and accepted. |
| Dereg RRQ Denied | The total number of de-registration requests received and rejected |
| Dereg RRQ Discard | The total number of de-registration requests received and discarded. |
| Dereg No Active Stop RX | The total number of de-registration requests with a No Active Stop record received. |
| Dereg No Active Stop Accp | The total number of de-registration requests with a No Active Stop record received and accepted. |
| Dereg No Active Stop Denied | The total number of de-registration requests with a No Active Stop record received and denied |
| Dereg No Active Stop Disc | The total number of de-registration requests with a No Active Stop record received and discarded. |
| Dereg Active Stop RX | The total number of de-registration request with an Active Stop record received. |
| Dereg Active Stop Accp | The total number of de-registration request with an Active Stop record received and accepted. |
| Reply Send Error | The total number of registration replies for which errors were experienced during transmission. |
| Airlink Seq Num Invalid | The total number of replies sent when an invalid airlink sequence number is received in RRQ. |
| Intra PDSN Active ANID Handoff RRQ RX | The total number of intra PDSN handoff RRQs with active Access Network IDentifier (ANID) received. |
| Intra PDSN Active ANID Handoff RRQ Accepted | The total number of intra PDSN handoff RRQs with active ANID received and accepted. |

| Field | Description |
|--|--|
| Intra PDSN Active ANID Handoff RRQ Denied | The total number of intra PDSN handoff RRQs with active ANID received and denied. |
| Intra PDSN Active ANID Handoff RRQ Discarded | The total number of intra PDSN handoff RRQs with active ANID received and discarded. |
| Intra PDSN Dormant ANID Handoff RRQ RX | The total number of intra PDSN handoff RRQs with dormant ANID received. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Intra PDSN Dormant ANID Handoff RRQ Accepted | The total number of intra PDSN handoff RRQs with dormant ANID received and accepted. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Intra PDSN Dormant ANID Handoff RRQ Denied | The total number of intra PDSN handoff RRQs with dormant ANID received and denied. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Intra PDSN Dormant ANID Handoff RRQ Discarded | The total number of intra PDSN handoff RRQs with dormant ANID received and discarded. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Inter PDSN Active MEI ANID Handoff RRQ RX | The total number of inter PDSN handoff RRQs with active Mobility Event Indicator (MEI) and ANID received. |
| Inter PDSN Active MEI ANID Handoff RRQ Accepted | The total number of inter PDSN handoff RRQs with active MEI and ANID received and accepted. |
| Inter PDSN Active MEI ANID Handoff RRQ Denied | The total number of inter PDSN handoff RRQs with active MEI and ANID received and denied. |
| Inter PDSN Active MEI ANID Handoff RRQ Discarded | The total number of inter PDSN handoff RRQs with active MEI and ANID received and discarded. |
| Intra PDSN Active Handoff RRQ Accepted | Indicates the total number of registration requests received for active sessions going through an intra-PDSN handoff. |

| Field | Description |
|---|---|
| Intra PDSN Dormant Handoff RRQ Accepted | Indicates the total number of registration requests received for dormant sessions going through an intra-PDSN handoff. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Inter PDSN Handoff RRQ Accepted | Indicates the total number of registration requests received for sessions going through an inter-PDSN handoff. |
| Reply Send Error | Indicates the total number of registration replies for which errors were experienced during transmission. |
| Registration Request Denied | |
| Unspecified Reason | Indicates the total number of registration requests that were denied using reply code of 80H (Registration Denied - reason unspecified) |
| Admin Prohibited | Indicates the total number of registration requests that were denied using reply code of 81H (Registration Denied - administratively prohibited). |
| Insufficient Resources | Indicates the total number of registration requests that were denied using reply code of 82H (Registration Denied - insufficient resources). |
| PCF Failed Auth | Indicates the total number of registration requests that were denied using reply code of 83H (Registration Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of registration requests that were denied using reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Request | Indicates the total number of registration requests that were denied using reply code of 86H (Registration Denied - poorly formed request). |
| Unknown PDSN Address | Indicates the total number of registration requests that were denied using reply code of 88H (Registration Denied - unknown PDSN address) |
| Reverse Tunnel Unavail | Indicates the total number of registration requests that were denied using reply code of 89H (Registration Denied - requested reverse tunnel unavailable). |
| Reverse Tunnel Required | Indicates the total number of registration requests that were denied using reply code of 8AH (Registration Denied - reverse tunnel is mandatory and "T"-bit not set). |
| Unrecognized Vendor Id | Indicates the total number of registration requests that were denied using reply code of 8DH (Registration Denied - unsupported vendor ID or unable to interpret data in the CVSE). |

| Field | Description |
|---|--|
| Session Already Closed | Renew and RRQ denied due to the session not present in the PDSN Dereq. Error code 0x8e. |
| RRQ Denied - Insufficient Resource Reasons | |
| No Session Manager | Indicates the total number of registration requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| No Memory | Indicates the total number of registration requests that were denied due to insufficient memory. |
| Session Managers Retried | Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session. |
| Input-Q Exceeded | Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| Policy Rejected | The Registration Request was denied because the policy was rejected. |
| Session Manager Rejected | The Registration Request was rejected by the Session Manager. |
| A11 Manager Rejected | The Registration Request was rejected by the A11 Manager. |
| RRQ Denied - Poorly Formed Request Reasons | |
| Session Already Dormant | The number of RRQs that had Active Stop for a session that was already dormant. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Already Active | The number of RRQs that had Active Start for a session that was already active. |
| Airlink Setup Absent | The number of RRQs denied due to an absent connection-setup record in the initial RRQ. |
| Mismatched CoA/Src addr | The number of RPs denied due to a mismatch in the care-of-address field and the request source address. |
| Other Reasons | The number of RRQs denied due to other reasons for a badly formed RRQ. |
| RRQ Denied - Overload/Congestion Control | |
| Admin Prohibited (reject) | RRQs denied with error code 0x81h due to congestion control mechanism. |
| Unknown PDSN (redirect) | RRQs denied with error code 0x88 due to congestion control mechanism. |

| Field | Description |
|---|--|
| Registration Request Discard Reasons | |
| No Session Manager | Indicates the total number of registration requests that were discarded due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| No Memory | Indicates the total number of registration requests that were discarded due to insufficient memory. |
| Malformed | Indicates the total number of registration requests that were discarded due to being poorly formed. |
| Auth Failure | Indicates the total number of registration requests that were discarded due to the mobile node failing authentication. |
| Session Manager Dead | Indicates the total number of registration requests that were discarded due to the termination of Session Manager tasks. NOTE: If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem. |
| Admin Prohibited | Indicates the total number of registration requests that were discarded due to being administratively prohibited. |
| Session Manager NotReady | Indicates the total number of registration requests that were discarded due to a Session Manager task not being ready. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly. |
| Unknown PDSN | Indicates the total number of registration requests that were discarded due to the request specifying an unknown PDSN address. |
| Internal Bounce Error | Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced was not successfully sent. |
| Input-Q Exceeded | Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| Max Sessions Reached | Indicates the total number of registration requests that were discarded due to the PDSN service reaching its configured maximum number of subscribers or the exceeding of the system's session capacity license. |
| Invalid Pkt Len | Indicates the total number of registration requests that were discarded due to having an invalid packet length. |
| GRE Key Changed | RRQs discarded due to GRE key change in RRQ message. |

| Field | Description |
|--|--|
| Overload/Congestion | RRQs discarded due to congestion control mechanism. |
| Dropped During Handoff | RRQs dropped during handoff. |
| Misc Reasons | Indicates the number of registration requests that were discarded due to reasons other than those listed here. |
| Registration Update/Ack | |
| Reg Update Transmitted | Indicates the total number of registration updates that were transmitted. |
| Accepted | Indicates the total number of registration updates that were accepted by the PCF. |
| Denied | Indicates the total number of registration updates that were denied. |
| Not Acknowledged | Indicates the total number of registration updates that were not acknowledged. |
| Initial Update TX | Indicates the total number of initial registration updates that were transmitted. |
| Update Re-TX | Indicates the total number of registration updates that were re-transmitted. |
| Reg Ack Received | Indicates the total number of registration acknowledgements that were received. |
| Reg Ack Discard | Indicates the total number of registration acknowledgements that were discarded. |
| Update Send Error | Indicates the total number of registration updates for which errors were experienced during transmission. |
| Registration Update Send Reason | |
| Lifetime Expiry | Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session. |
| Other Reasons | Indicates the total number of registration updates that were sent due to reasons other than those listed here. |
| Upper Layer Initiated | Indicates the total number of registration updates that were initiated by upper processing layers. |
| Handoff Release | Indicates the number of registration updates that were sent due to handoff releases. |
| Session Manager Exited | Indicates the number of registration updates that were sent due to the termination of a Session Manager task. |

| Field | Description |
|---|--|
| Registration Update Denied | |
| Reason Unspecified | Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified). |
| Admin Prohibited | Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited). |
| PDSN Failed Auth | Indicates the total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication). |
| Identification Mismatch | Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch). |
| Poorly Formed Update | Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request). |
| Registration Ack Discard Reasons | |
| Session Absent | Indicates the total number of registration acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late. |
| No Memory | Indicates the total number of registration acknowledgements that were discarded due to insufficient memory. |
| Malformed | Indicates the total number of registration acknowledgements that were discarded due to being poorly formed. |
| Auth Failure | Indicates the total number of registration acknowledgements that were discarded due to the mobile node failing authentication. |
| Internal Bounce Error | Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent). |
| Input-Q Exceeded | Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| Mismatched Id | Indicates the total number of discarded registration acknowledgements due to reply code 85H (Registration Denied - identification mismatch). |
| Invalid Pkt Len | Indicates the total number of registration acknowledgements that were discarded due to having an invalid packet length. |
| Misc Reasons | Indicates the number of registration acknowledgements that were discarded due to reasons other than those listed here. |

| Field | Description |
|------------------------------------|---|
| Session Update/Ack | |
| Sess Update Transmitted | This is a session update statistic that is not supported at this time. |
| Accepted | This is a session update statistic that is not supported at this time. |
| Denied | This is a session update statistic that is not supported at this time. |
| Not Acknowledged | This is a session update statistic that is not supported at this time. |
| Initial Update TX | This is a session update statistic that is not supported at this time. |
| Update Retransmitted | This is a session update statistic that is not supported at this time. |
| Sess Ack Received | This is a session update statistic that is not supported at this time. |
| Sess Ack Discarded | This is a session update statistic that is not supported at this time. |
| Sess Update Send Error | This is a session update statistic that is not supported at this time. |
| Session Update Send Reason | |
| Always On | Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature. |
| QoS Info | This is a session update statistic that is not supported at this time. |
| Session Update Denied | |
| Reason Unspecified | This is a session update statistic that is not supported at this time. |
| Insufficient Resources | This is a session update statistic that is not supported at this time. |
| Admin Prohibited | This is a session update statistic that is not supported at this time. |
| Parameter not updated | This is a session update statistic that is not supported at this time. |
| PDSN Failed Auth | This is a session update statistic that is not supported at this time. |
| Identification Mismatch | This is a session update statistic that is not supported at this time. |
| Poorly Formed Update | This is a session update statistic that is not supported at this time. |
| Session Update Ack Discard Reasons | |
| Session Absent | Indicates the total number of session acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late. |
| No Memory | Indicates the total number of session acknowledgements that were discarded due to insufficient memory. |
| Malformed | Indicates the total number of session acknowledgements that were discarded due to being poorly formed. |

| Field | Description |
|-----------------------------------|--|
| Auth Failure | Indicates the total number of session acknowledgements that were discarded due to the mobile node failing authentication. |
| Internal Bounce Error | Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent). |
| Input-Q Exceeded | Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity. |
| Mismatched Id | Indicates the total number of discarded session acknowledgements due to reply code 85H (Registration Denied - identification mismatch). |
| Invalid Packet Length | Indicates the total number of session acknowledgements that were discarded due to having an invalid packet length. |
| Misc Reasons | Indicates the number of session acknowledgements that were discarded due to reasons other than those listed here. |
| Security Violations | |
| Total Violations | Indicates the total number of security violations that occurred. |
| Bad SPI # | Indicates the total number of security violations that occurred due to the receipt of a Security Parameter Index (SPI) that was in the reserved range (0 through 255). |
| Bad Authenticator | Indicates the total number of security violations that occurred due to a mis-computed authentication field. |
| Unknown SPI # | Indicates the total number of security violations that occurred due to the receipt of a Security Parameter Index (SPI) that is not configured on the PDSN. |
| Missing MN-HA Auth Extension | Indicates the total number of security violations that occurred due to missing mobile node-home agent authentication extensions. |
| Missing Reg Update Auth Extension | Indicates the total number of security violations that occurred due to missing registration update authentication extensions |
| GRE Receive | |
| Total Packets Received | Indicates the total number of Generic Routing Encapsulation (GRE) packets received. |
| Protocol Type Error | Indicates the total number of GRE packets received with an unsupported protocol type field in the header. |
| Total Bytes Received | Indicates the total number of Generic Routing Encapsulation (GRE) bytes received. |

| Field | Description |
|---|---|
| GRE Key Absent | Indicates the total number of GRE packets received with no GRE key in the header. |
| GRE Checksum Error | Indicates the number of errors that occurred in GRE packets. |
| Invalid Packet Length | Indicates the total number of GRE packets received with invalid packet lengths. |
| No Session Found | Indicates the total number of GRE packets received for which no sessions can be found. |
| GRE Send | |
| Total Packets Sent | Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted. |
| Total Bytes Sent | Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted. |
| GRE Packets Sent in SDB Form | This indicates the total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| GRE Bytes Sent in SDB Form | This indicates the total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF. |
| GRE Flow Control | |
| Total Packets Received with XOFF | The total number of packets received for this username while the flow control was set to XOFF. |
| Total Packets Received with XON | The total number of packets received for this username while the flow control was set to XON. |
| Total XON->XOFF Transactions | The total number of times the flow control indicator was changed from XON to XOFF for sessions involving this username. |
| Total Output Packets Dropped on XOFF | The total number of packets dropped after receiving an XOFF flow control command from the RAN. |
| Total Output Bytes Dropped on XOFF | The total number of bytes dropped after receiving an XOFF flow control command from the RAN. |
| Total RP sessions matching specified criteria | The total number of sessions that had the username specified on the command line. |
| GRE Segmentation | |
| Total Packets Received with segmentation indication | Indicates the total number of Generic Routing Encapsulation (GRE) packets received with segmentation indication. |
| Total Packets Sent with segmentation indication | Indicates the total number of Generic Routing Encapsulation (GRE) packets sent with segmentation indication. |

| Field | Description |
|---|--|
| Total successful reassembly | Indicates the total number of Generic Routing Encapsulation (GRE) packets that were successfully reassembled. |
| Total packets processed without proper reassembly | Indicates the total number of Generic Routing Encapsulation (GRE) packets that were processed without proper reassembly. |



CHAPTER 120

show s4sgsn

- [show s4-sgsn statistics all, on page 1847](#)

show s4-sgsn statistics all

Table 489: show s4-sgsn statistics all Command Output Descriptions

| Field | Description |
|-------------------------------|---|
| SGW Relocations: | |
| 3G Intra SGSN RAU | Total number of Intra-SGSN RAUs involving SGW relocation for 3G. |
| 2G Intra SGSN RAU | Total number of Intra-SGSN RAUs involving SGW relocation for 2G. |
| 3G Inter SGSN RAU (S16) | Total number of Inter-SGSN RAUs on the S16 interface involving SGW relocation in 3G. |
| 2G Inter SGSN RAU (S16) | Total number of Inter-SGSN RAUs involving SGW relocation on the S16 interface for 2G. |
| 3G MME-SGSN RAU (S3) | The total number of MME-SGSN RAUs on the S3 interface involving SGW relocation in 3G. |
| 2G MME-SGSN RAU (S3) | The total number of MME SGSN RAUs on the S3 interface involving SGW relocation in 2G. |
| Intra SGSN 2G to 3G RAU | Total number of intra-SGSN 2G to 3G RAUs involving SGW relocation. |
| Intra SGSN 3G to 2G RAU | Total number of Intra SGSN 3G to 2G RAUs involving SGW relocation. |
| 3G Intra SGSN SRNS Relocation | Total number of intra SGSN SRNS relocations involving SGW relocation in 3G. |

| Field | Description |
|---|--|
| 3G Inter SGSN SRNS Relocation (S16) | Total number of inter SGSN SRNS relocations across the S16 interface involving SGW relocation in 3G. |
| MME-SGSN SRNS Relocation (S3) | Total number of MME to SGSN SRNS relocations across the S3 interface involving SGW relocation. |
| ISR Deactivations: | |
| 3G Intra RAU with SGW Relocation | Total number of ISR deactivations that occurred due to SGW relocation during an intra RAU in 3G. |
| 3G NW Initiated Detach | Total number of ISR deactivations that occurred during the SGSN initiated detach procedure. |
| 3G MR IDT Expiry | Total number of ISR deactivations that occurred if the user was implicitly detached due to a mobile reachability timer expiry. |
| 3G MS Initiated Detach | Total number of ISR deactivations that occurred during the MS initiated detach procedure. |
| 3G Cancel Location from HSS/HLR | Total number of ISR deactivations that occurred when a Cancel-Location request was received from the HLR/HSS. |
| 3G SRNS Abort | Total number of ISR deactivations that occurred during the SRNS abort procedure. |
| 3G Local Admin Detach | Total number ISR deactivations that occurred when an operator executed the clear subscribers all local-purge command. |
| 3G SGW Change During SRNS | Total number of ISR deactivations that occurred when the SGW changes during SRNS. |
| 2G Intra RAU with SGW Relocation | Total number of ISR deactivations that occurred due to SGW relocation during an intra RAU in 2G. |
| 2G Implicit Detach | Total number of ISR deactivations that occurred due to an implicit detach in 2G. |
| Detach Notification from MME to 2G | Total number of ISR deactivations that occurred due to a detach notification message being received from MME in 2G. |
| S3 Interface Selection Statistics: | |
| 3G S3 Selections from Standard Mapping | Total number of times that the MME address was selected based on the standard mapping (MSB bit of LAC is set) in 3G. |
| 3G S3 Selections from Custom Mapping | Total number of times that the MME address was selected based on the custom-based mapping (using GUTI DB) in 3G. |
| 2G S3 Selections from Standard Mapping | Total number of times that the MME address was selected based on the standard mapping (MSB bit of LAC is set) in 2G. |

| Field | Description |
|---|---|
| 2G S3 Selections from Custom Mapping | Total number of times that the MME address was selected based on the custom-based mapping (using GUTI DB) in 2G. |
| Procedure Abort Statistics: | |
| 3G Intra SRNS Abort Due to Total CSR Failure | Total number of intra SGSN SRNS relocations aborted if the intra SGSN SRNS relocation initiated an SGW relocation and the new SGW did not respond to the Create Session Request. |
| 3G New SGSN SRNS Abort Due to Total CSR Failure | Total number of new SGSN SRNS relocations aborted if the new SGSN SRNS relocation initiated an SGW relocation and the new SGW did not respond to the Create Session Request. |
| PDP Deletion Statistics: | |
| DBR from new SGW during Intra SRNS | Indicates the total number of PDPs removed upon receiving a DBR from a new SGW during Intra SRNS relocation. This scenario can occur if a DBR is initiated from a new SGW before a Modify is received at its end. |
| GTPU Statistics: | |
| Total Packets Rcvd | The sum total of the Total Packets from SGW and IDFT packets from SGW counter values. |
| Total Packets from SGW | The total number of downlink packets received from the SGW (excluding indirect data forwarded packets). |
| Pkts queued | The total number of downlink packets queued by the S4-SGSN. |
| Pkts forward from queue | The total number of downlink packets queued, and successfully forwarded by the S4-SGSN. |
| Pkts dropped | The total number of downlink queued packets dropped by the S4-SGSN without forwarding due to various reasons. This total equals the sum of the following statistics: <ul style="list-style-type: none"> • Queue Full • Sess Dealloc Started • Paging Failure • Iu Release • BVC Reset / Block Rcvd |
| Queue Full | Total number of packets dropped due to the queue being full. |
| Sess Dealloc Started | Total number of packets dropped because the PDP session for which the data is queued is being de-allocated. |
| Paging Failure | Total number of packets dropped because of a paging failure. |
| Traffic Policing | Total number of packets dropped because of downlink traffic policing. |

| Field | Description |
|--------------------------|--|
| BVC Reset/Block Rcvd | Total number of packets dropped in a 2G S4-SGSN when a BVC Reset / Block is received. |
| Total Bytes Rcvd | The sum total of the Total Bytes from SGW and IDFT bytes from SGW counter values. |
| Total Bytes from SGW | The total number of downlink bytes received from the SGW (excluding indirect data forwarded bytes). |
| Bytes queued | The total number of downlink bytes queued by the S4-SGSN. |
| Bytes forward from queue | The total number of downlink bytes queued and successfully forwarded by the S4-SGSN. |
| Bytes dropped | The total number of downlink queued bytes dropped by the S4-SGSN without forwarding due to various reasons. This total is the sum of the values for the following statistics: <ul style="list-style-type: none"> • Queue Full • Sess Dealloc Started • Paging Failure • Traffic Policing • Iu release • BVC Reset / Block Rcvd) |
| Queue Full | Total number of bytes dropped due to queue being full. |
| Sess Dealloc Started | Number of bytes dropped because the PDP session for which the data is queued is being deallocated. |
| Paging Failure | Total number of bytes dropped because of paging failure. |
| Traffic Policing | Total number of bytes dropped because of downlink traffic policing. |
| BVC Reset/Block Rcvd | Total number of bytes dropped in 2G S4-SGSN when a BVC Reset / Block is received. |
| IDFT Statistics: | |
| IDFT packets to SGW | Total number of old SGSN connected mode handovers when indirect data forwarding is enabled at the old SGSN to retransmit the queued downlink packets from RNC to eNodeB. During this scenario, the RNC sends the queued downlink packets to SGSN and SGSN sends it through IDFT to the SGW and SGW forwards it to eNodeB. This statistics denotes the number of packets sent through SGSN by RNC to SGW for indirect data forwarding |

| Field | Description |
|--|--|
| IDFT packets from SGW | Total number of new SGSN connected mode handovers when indirect data forwarding is enabled at the new SGSN to retransmit the queued downlink packets from eNodeB to RNC. During this scenario, the eNodeB sends the queued downlink packets to SGW through an IDFT setup by MME and SGW sends it through IDFT to the SGSN and SGSN forwards it to RNC. This stat denotes the number of packets sent through SGSN by SGW to RNC for indirect data forwarding. |
| IDFT bytes to SGW | This counter is incremented during old SGSN SRNS relocation when indirect data forwarding is enabled at the old SGSN to retransmit the queued downlink packets from RNC to eNodeB. During this scenario, the RNC sends the queued downlink packets to SGSN and SGSN sends it through IDFT to the SGW and SGW forwards it to eNodeB. This stat denotes the number of bytes sent through SGSN by RNC to SGW for indirect data forwarding |
| IDFT bytes from SGW | The total number of new SGSN connected mode handovers when indirect data forwarding is enabled at the new SGSN to retransmit the queued downlink packets from eNodeB to RNC. During this scenario, the eNodeB sends the queued downlink packets to SGW through an IDFT setup by MME and SGW sends it through IDFT to the SGSN and SGSN forwards it to RNC. This stat denotes the number of bytes sent through SGSN by SGW to RNC for indirect data forwarding. |
| S4 Overcharge Protection Statistics | |
| 3G Release Access Bearer with ARRL bit set | Indicates the total number of Release Access Bearer messages sent within UMTS with ARRL bit set. |
| 2G Release Access Bearer with ARRL bit set | Indicates the total number of Release Access Bearer messages sent within GPRS with ARRL bit set. |



CHAPTER 121

show samog-services

This chapter describes the output of the **show samog-services** command variants.

- [show samog-service statistics, on page 1853](#)

show samog-service statistics

Table 490: show samog-service statistics

| Field | Description |
|--|--|
| SaMOG Statistics for all services | |
| MRME Service Stats | |
| Session Stats | |
| Total Attempted | Total number of sessions attempted. |
| Total Setup | Total number of sessions setup. |
| Total Current | Total number of sessions that are currently active. |
| Total Released | Total number of sessions released |
| Total Aborted | Total number of sessions aborted. |
| Total Disconnected | |
| Disconnected locally | Total number of sessions that were disconnected locally. |
| Disconnected by UE | Total number of sessions that were disconnected by the UE. |
| Disconnected by NAS | Total number of sessions that were disconnected by NAS. |
| Disconnected by CGW | Total number of sessions that were disconnected CGW. |
| Disconnected by AAA | Total number of sessions that were disconnected by AAA. |
| Radius Message Stats | |

| Field | Description |
|--|--|
| Total Start Req rcvd | Total number of RADIUS start request message received. |
| Total Start Req (Retransmitted) rcvd | Total number of RADIUS retransmitted start request message received. |
| Total Start Rsp sent | Total number of RADIUS start response message sent. |
| Total Interim Updt rcvd | Total number of RADIUS interim update received. |
| Total Interim Updt (Retransmitted) rcvd | Total number of RADIUS retransmitted interim update received. |
| Total Interim Updt Rsp sent | Total number of RADIUS interim update response sent. |
| Total Stop Req rcvd | Total number of RADIUS stop request message received. |
| Total Stop Req (Retransmitted) rcvd | Total number of RADIUS retransmitted stop request message received. |
| Total Stop Rsp sent | Total number of RADIUS stop response sent. |
| Total Accounting On rcvd | Total number of accounting on message received. |
| Total Accounting Off rcvd | Total number of accounting off message received. |
| Total Access Req rcvd | Total number of access request message received. |
| Total Access Req (Retransmitted) rcvd | Total number of retransmitted access request message received. |
| Total Access Challenge sent | Total number of Access Challenge message sent. |
| Total Access Accept sent | Total number of Access Accept sent due to congestion policy. |
| Total Access Reject sent | Total number of Access Rejected sent due to congestion policy. |
| Congestion control policy applied | |
| Total Unknown Req rcvd | Total number of unknown requests received for congestion control policy. |
| Total Send Failure | Total number of congestion control policy sent that failed. |
| Total Discarded | Total number of congestion control policy discarded. |
| Mandatory Attr Missing | Total number of missing mandatory attributes. |
| Start For Non-Existing Session | Total number of start messages sent to non-existing sessions. |
| Interim For Non-Existing Session | Total number of interim messages sent to non-existing sessions. |
| Stop For Non-Existing Session | Total number of stop messages sent to non-existing sessions. |
| Unknown Client | Total number of unknown client. |
| Invalid Authenticator | Total number of authenticators that is invalid |

| Field | Description |
|-----------------------------------|--|
| Stale Packets | Total number of stale packets. |
| Service Not Supported | Total number of services that are not supported. |
| No Resource | Total number of resources that are not available. |
| Internal Error | Total number of internal errors that occurred. |
| License Limit Exceeded | Total number of license limit exceeded. |
| Service Limit Exceeded | Total number of license limit exceeded. |
| Invalid Length | Total number of call control profiles with invalid length. |
| Invalid EAP | Total number of call control profiles with invalid EAP. |
| Pending Server Response | Total number of call control profiles with server response pending. |
| Congestion control policy applied | Total number of congestion control policies applied. |
| No Policy Match | Total number of Access-Requests dropped due to non-availability of matching PLMN based local policy. |
| DHCP Message Stats | |
| DHCP Messages Discarded | Total number of DHCP messages discarded. |
| Max Size Exceeded | Total number of DHCP messages discarded due to the maximum size exceeded. |
| Non-Existing Session | Total number of DHCP messages discarded due to a non-existing session. |
| GiAddr Mismatch | Total number of DHCP messages due to a Gi address mismatch. |
| Unsupported HW Type or Length | Total number of DHCP messages due to an unsupported hardware type or length. |
| Stale Packets | Total number of DHCP messages discarded due to stale packets. |
| Service Not Supported | Total number of DHCP messages discarded due to an unsupported service. |
| Reauthorization Stats | |
| Attempts | Total number of reauthorization attempts. |
| Success | Total number of reauthorization succeeded. |
| Failure | Total number of reauthorization failure. |
| Reauthentication Stats | |
| Attempts | Total number of reauthentication attempts. |

| Field | Description |
|------------------------------|--|
| Success | Total number of reauthentication succeeded. |
| Failure | Total number of reauthentication failure. |
| Handoff Stats | |
| With Authentication | |
| Attempts | Total number of sessions attempted for handoff using authentication mechanism. |
| Success | Total number of sessions with successful handoff using authentication mechanism. |
| Failure | Total number of handoff failure sessions using authentication mechanism. |
| With Accounting Start | |
| Attempts | Total number of sessions attempted for handoff using accounting mechanism. |
| Success | Total number of sessions with successful handoff using accounting mechanism. |
| Failure | Total number of sessions with handoff failure using accounting mechanism. |
| With Accounting Interim | |
| Attempts | Total number of sessions attempted for handoff using accounting interim mechanism. |
| Success | Total number of sessions with successful handoff using accounting interim mechanism. |
| Failure | Total number of sessions with handoff failure using accounting inerim mechanism. |
| EAP Client Stats | |
| Initial Identity Msgs | |
| NAI Formats | |
| Root NAI | Total number of UE Identity that uses the root NAI format. |
| Decorated NAI | Total number of UE Identity that uses the decorated NAI format. |
| UE Identity formats | |
| IMSI Identity | Total number of UE Identity that uses an IMSI identity. |
| Fast Reauth | Total number of UE Identity that uses the fast reauth NAI format. |

| Field | Description |
|----------------------------------|--|
| Pseudonym | Total number of UE Identity that uses the pseudonym NAI format. |
| Emergency | Total number of UE Identity that uses the emergency NAI format. |
| Unknown NAI | Total number of UE Identity that uses an NAI format that is unknown. |
| EAP type | |
| EAP-AKA | Total number of Extensible Authentication Protocol AKA. |
| EAP-SIM | Total number of Extensible Authentication Protocol SIM. |
| EAP-AKA' | Total number of Extensible Authentication Protocol AKA'. |
| EAP Unsupported | Total number of Extensible Authentication Protocol that is unsupported. Important This counter has been removed in Release 18 and later. |
| EAP Other | Total number of Extensible Authentication Protocol EAP-TLS or EAP-TTLS/MSCHAPv2. |
| Initial Non-Identity Msgs | |
| Total Requested | Total number of initial non-identity messages requested. |
| Total Rejected | Total number of initial non-identity messages rejected. |
| Invalid Len | Total number of initial non-identity messages with invalid length. |
| Invalid Code | Total number of initial non-identity messages with invalid code. |
| Id Mismatch | Total number of initial non-identity messages with ID mismatch. |
| Invalid NAI | Total number of initial non-identity messages with invalid NAI. |
| Invalid IMSI | Total number of initial non-identity messages with invalid IMSI number. |
| Total Dropped | Total number of initial non-identity messages that were dropped. |
| Invalid code | Total number of initial non-identity messages with invalid code. |
| EAP Server Stats | |
| Total Sent | Total number of EAP server status sent. |
| Total Received | Total number of EAP server status received. |
| Success | Total number of EAP server connections succeeded. |
| Request | Total number of EAP server requests sent. |

| Field | Description |
|---|--|
| Failure | Total number of EAP server requests failed. |
| Drop | Total number of EAP server requests dropped. |
| Total Discarded | Total number of EAP server requests discarded |
| Framed MTU | Total number of framed MTUs sent. |
| Non-EAP Session Stats | |
| Attempted | Total number of non-EAP sessions attempted. |
| AAA Rejects | Total number of non-EAP sessions rejected by AAA server or rejected during AAA auth response parsing in SaMOG (invalid attributes, missing mandatory AVPs etc.) |
| Pre-authentication Calls | |
| Success | Total number of non-EAP sessions successfully established during the pre-authentication phase. |
| Failure | Total number of non-EAP sessions failed to be created during the pre-authentication phase. Possible reasons: internal errors, missing pre-auth phase configs, missing ACL/pool/rulebase etc. |
| AAA Disconnect with IMSI | Total number of AAA disconnects with IMSI during the pre-authentication phase. |
| AAA Disconnect without IMSI | Total number of AAA disconnects without IMSI during pre-authentication phase. |
| AAA Disconnect timeout | Total number of AAA disconnects due to a timeout during the pre-authentication phase. |
| Authentication & Authorization Calls | |
| Success | Total number of non-EAP sessions successfully established after UE is authenticated and authorized by AAA (i.e. TAL phase, wherein AAA provides User Identity). |
| Failure | Total number of non-EAP sessions failed to be created after UE is authenticated and authorized by AAA (i.e. TAL phase, wherein AAA provides User Identity). Possible reasons are network type selection failure, PGW selection failure, multi-device demux failure, internal errors etc. |
| Abort | Total number of non-EAP sessions aborted specifically due to IPSP demux failure, when multiple devices of same user are connected. |
| PGW/GGSN Selection Stats | |

| Field | Description |
|----------------------------------|--|
| IP Address | Total number of PGW/GGSN IP addresses resolved during PGW selection. |
| Hostname | |
| SNAPTR Procedure | |
| Success | Total number of Snaptr queries that are successful for the given hostname for PGW selection. |
| Failure | Total number of Snaptr queries that failed for the given hostname for PGW selection. |
| APN FQDN | |
| SNAPTR Procedure | |
| Success | Total number of Snaptr queries that are successful for given APN FQDN for PGW selection. |
| Failure | Total number of Snaptr queries that failed for a given APN FQDN for PGW selection |
| A/AAAA Procedure | |
| Success | Total number of A/AAAA queries that are successful for given APN FQDN for PGW selection. |
| Failure | Total number of A/AAAA queries that failed for a given APN FQDN for PGW selection. |
| Network Access Mode Stats | |
| Local Offload | Total number of sessions selected for local offload network access mode. |
| GTPv1 | Total number of sessions selected with network access mode as GTPv1. |
| GTPv2 | Total number of sessions selected with network access mode as GTPv2. |
| PMIP | Total number of sessions selected with network access mode as PMIP. |
| Local Offload Flow Stats | |
| GTPv1 | Total number of local offload flows with network mode as GTPv1. |
| GTPv2 | Total number of local offload flows with network mode as GTPv2. |
| PMIP | Total number of local offload flows with network mode as PMIP. |
| Disconnect Messages Stats | |

| Field | Description |
|-----------------------------------|---|
| Disconnect Messages Sent | Total number of disconnect messages sent. |
| Disconnect Response Received | Total number of disconnect responses received. |
| Disconnect Response Ack Received | Total number of disconnect response acknowledgement received. |
| Residual Session Removed | Total number of residual sessions removed. |
| Disconnect Response Nack Received | Total number of disconnect response acknowledgement received. |
| Unsupported Attribute | Total number of unsupported attribute. |
| Missing Attribute | Total number of missing attribute. |
| NAS Id Mismatch | Total number of mismatch in the NAS ID. |
| Invalid Request | Total number of invalid requests. |
| Unsupported Service | Total number of unsupported services. |
| Unsupported Extension | Total number of unsupported extensions. |
| Admin Prohibited | Total number of administration prohibited. |
| Session Context Not Found | Total number of session context not found. |
| Session Context Not Removable | Total number of session context not removable. |
| Resource Unavailable | Total number of unavailable resources. |
| CGW Service Stats | |
| Subscribers Total | |
| Active | Total number of active subscribers. |
| Setup | Total number of subscribers setup. |
| Released | Total number of subscribers released. |
| PDNs Total | |
| Active | Total number of PDN connections active. |
| Setup | Total number of PDN connections setup. |
| Released | Total number of PDN connections released. |
| Rejected | Total number of PDN connections rejected. |
| PDNs By PDN-Type | |
| IPv4 PDNs | |
| Active | Total number of IPv4 PDNs active. |

| Field | Description |
|-----------------------------|---|
| Setup | Total number of IPv4 PDNs connected. |
| Released | Total number of IPv4 PDNs released. |
| Rejected | Total number of IPv4 PDNs rejected. |
| IPv6 PDNs | |
| Active | Total number of IPv6 PDNs active. |
| Setup | Total number of IPv6 PDNs connected. |
| Released | Total number of IPv6 PDNs released. |
| Rejected | Total number of IPv6 PDNs rejected. |
| IPv4v6 PDNs | |
| Active | Total number of IPv4v6 PDNs active. |
| Setup | Total number of IPv4v6 PDNs connected. |
| Released | Total number of IPv4v6 PDNs released. |
| Rejected | Total number of IPv4v6 PDNs rejected. |
| PDNs By Network-Type | |
| GTPv1 PDNs | |
| Active | Total number of current active GTPv1 PDN connections. |
| Setup | Total number of GTPv1 PDN connections created. |
| Released | Total number of GTPv1 PDN connections released. |
| Rejected | Total number of GTPv1 PDN connections rejected. |
| GTPv2 PDNs | |
| Active | Total number of current active GTPv2 PDN connections. |
| Setup | Total number of GTPv2 PDN connections created. |
| Released | Total number of GTPv2 PDN connections released. |
| Rejected | Total number of GTPv2 PDN connections rejected. |
| Gi Redirect PDNs | |
| Active | Total number of locally offloaded PDN (including Pre-authentication) calls that are currently active. |
| Setup | Total number of locally offloaded PDN (including Pre-authentication) calls setup on SaMOG after a chassis reboot. |

| Field | Description |
|---|---|
| Released | Total number of locally offloaded PDN (including Pre-authentication) calls released by the SaMOG service. |
| Rejected | Total number of locally offloaded PDN (including Pre-authentication) calls rejected by the SaMOG service. |
| PDNs Released By Reason | |
| MAG Ini | Total number of PDN connections released by MAG. |
| PGW Ini | Total number of PDN connections released by PGW. |
| DHCP Client Ini | Total number of PDN connections released by DHCP. |
| GGSN Ini | Total number of PDN connections released by GGSN. |
| GTPC Path Failure | Total number of PDN connections released because of GTPC path failure. |
| GTPU Path Failure | Total number of PDN connections released because of GTPU path failure. |
| GTPU Error Ind | Total number of PDN connections released because of GTPU Error Indication. |
| Local | Total number of PDN connections released Locally. |
| Other | Total number of PDN connections released by reason undefined. |
| PDNs Aborted By Reason | |
| IP Allocation Failure | Total number of PDN connections aborted due to an IP allocation failure. |
| Bearer Id Alloc Failure | Total number of PDN connections aborted due to a bearer ID allocation failure. |
| IPv6 Neighbor Discovery Statistics | |
| IPv6 RS Received | Total number of IPv6 Router Solicitation messages received. |
| IPv6 RS Dropped | Total number of IPv6 Router Solicitation messages dropped. |
| IPv6 RA Sent | Total number of IPv6 Router Advertisement messages sent. |
| Data Statistics Per Interface | |
| S2A-GTP Total Data Statistics | |
| Uplink | |
| Total Pkts | |

| Field | Description |
|------------------|--|
| IPv4 Pkts(IPv4) | Total number of IPv4 payload packets sent over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Pkts(IPv6) | Total number of IPv6 payload packets sent over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv4) | Total number of IPv4 payload packets sent over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv6) | Total number of IPv6 payload packets sent over the IPv6 GTP tunnel towards P-GW. |
| Total Bytes | |
| IPv4 Bytes(IPv4) | Total number of IPv4 payload bytes sent over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Bytes(IPv6) | Total number of IPv6 payload bytes sent over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv4) | Total number of IPv4 payload bytes sent over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv6) | Total number of IPv6 payload bytes sent over the IPv6 GTP tunnel towards P-GW. |
| Dropped Pkts | |
| IPv4 Pkts(IPv4) | Total number of dropped IPv4 payload packets that were sent over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Pkts(IPv6) | Total number of dropped IPv6 payload packets that were sent over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv4) | Total number of dropped IPv4 payload packets that were sent over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv6) | Total number of dropped IPv6 payload packets that were sent over the IPv6 GTP tunnel towards P-GW. |
| Dropped Bytes | |
| IPv4 Bytes(IPv4) | Total number of dropped IPv4 payload bytes that were sent over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Bytes(IPv6) | Total number of dropped IPv6 payload bytes that were sent over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv4) | Total number of dropped IPv4 payload bytes that were sent over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv6) | Total number of dropped IPv6 payload bytes that were sent over the IPv6 GTP tunnel towards P-GW. |

| Field | Description |
|------------------|--|
| Downlink | |
| Total Pkts | Total number of downlink packets sent on S2a Interface. |
| IPv4 Pkts(IPv4) | Total number of IPv4 payload packets received over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Pkts(IPv6) | Total number of IPv6 payload packets received over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv4) | Total number of IPv4 payload packets received over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv6) | Total number of IPv6 payload packets received over the IPv6 GTP tunnel towards P-GW. |
| Total Bytes | |
| IPv4 Bytes(IPv4) | Total number of IPv4 payload bytes received over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Bytes(IPv6) | Total number of IPv6 payload bytes received over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv4) | Total number of IPv4 payload bytes received over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv6) | Total number of IPv6 payload bytes received over the IPv6 GTP tunnel towards P-GW. |
| Dropped Pkts | |
| IPv4 Pkts(IPv4) | Total number of dropped IPv4 payload packets that were received over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Pkts(IPv6) | Total number of dropped IPv6 payload packets that were received over the IPv4 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv4) | Total number of dropped IPv4 payload packets that were received over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Pkts(IPv6) | Total number of dropped IPv6 payload packets that were received over the IPv6 GTP tunnel towards P-GW. |
| Dropped Bytes | |
| IPv4 Bytes(IPv4) | Total number of dropped IPv4 payload bytes that were received over the IPv4 GTP tunnel towards P-GW. |
| IPv4 Bytes(IPv6) | Total number of dropped IPv6 payload bytes that were received over the IPv4 GTP tunnel towards P-GW. |

| Field | Description |
|---------------------------------------|--|
| IPv6 Bytes(IPv4) | Total number of dropped IPv4 payload bytes that were received over the IPv6 GTP tunnel towards P-GW. |
| IPv6 Bytes(IPv6) | Total number of dropped IPv6 payload bytes that were received over the IPv6 GTP tunnel towards P-GW. |
| S2A-PMIP Total Data Statistics | |
| Uplink | |
| Total Pkts | Total number of Uplink packets sent on S2a PMIP Interface. |
| Total Bytes | Total number of Uplink bytes sent on S2a PMIP Interface. |
| Dropped Pkts | Total number of Uplink packets dropped on S2a PMIP Interface. |
| Dropped Bytes | Total number of Uplink bytes dropped on S2a PMIP Interface. |
| Downlink | |
| Total Pkts | Total number of downlink packets sent on S2a PMIP Interface. |
| Total Bytes | Total number of downlink bytes sent on S2a PMIP Interface. |
| Dropped Pkts | Total number of downlink packets dropped on S2a PMIP Interface. |
| Dropped Bytes | Total number of downlink bytes dropped on S2a PMIP Interface. |
| Gn-U Total Data Statistics | |
| Uplink | |
| Total Pkts | Total number of Uplink packets sent on Gn-U Interface. |
| Total Bytes | Total number of Uplink data bytes sent on Gn-U Interface. |
| Dropped Pkts | Total number of Uplink packets dropped on Gn-U Interface. |
| Dropped Bytes | Total number of Uplink data bytes dropped on Gn-U Interface. |
| Downlink | |
| Total Pkts | Total number of Downlink packets sent on Gn-U Interface. |
| Total Bytes | Total number of Downlink data bytes sent on Gn-U Interface. |
| Dropped Pkts | Total number of Downlink packets dropped on Gn-U Interface. |
| Dropped Bytes | Total number of Downlink data bytes dropped on Gn-U Interface. |
| Data Statistics Per PDN-Type | |
| IPv4 PDNs | |
| Uplink | |

| Field | Description |
|-------------------------------|---|
| Total Pkts | Total number of uplink packets sent for IPv4 PDNs. |
| Total Bytes | Total number of uplink bytes sent for IPv4 PDNs. |
| Downlink | |
| Total Pkts | Total number of downlink packets sent for IPv4 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv4 PDNs. |
| IPv6 PDN | |
| Uplink | |
| Total Pkts | Total number of uplink packets sent for IPv6 PDNs. |
| Total Bytes | Total number of uplink bytes sent for IPv6 PDNs. |
| Downlink | |
| Total Pkts | Total number of downlink packets sent for IPv6 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv6 PDNs. |
| IPv4v6 PDNs | |
| Uplink v4 | |
| Total Pkts | Total number of downlink packets sent for IPv4 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv4 PDNs. |
| Downlink v4 | |
| Total Pkts | Total number of downlink packets sent for IPv4 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv4 PDNs. |
| Uplink v6 | |
| Total Pkts | Total number of downlink packets sent for IPv6 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv6 PDNs. |
| Downlink v6 | |
| Total Pkts | Total number of downlink packets sent for IPv6 PDNs. |
| Total Bytes | Total number of downlink bytes sent for IPv6 PDNs. |
| MIP AAA Authentication | |
| Attempts | Total number of sessions for MIP authentication attempts. |
| Success | Total number of successful MIP authentication sessions. |

| Field | Description |
|--|--|
| Total Failures | Total number of MIP authentication failures. |
| Actual Auth Failures | Total number of actual MIP Authentication failures. |
| Misc Auth Failures | Total number of Miscellaneous MIP Authentication failures. |
| Binding Updates Received | |
| Total Received | Total number of PMIPv6 PBUs received. |
| Total Accepted | Total number of PMIPv6 PBUs accepted. |
| Total Denied | Total number of PMIPv6 PBUs denied/failed during processing. |
| Total Discarded | Total number of PMIPv6 PBUs discarded or dropped. |
| Initial Binding Update Requests | |
| Received | Total number of initial binding update requests received. |
| Accepted | Total number of initial binding update requests accepted. |
| Denied | Total number of initial binding update requests denied. |
| Refresh Binding Update Requests | |
| Received | Total number of PMIPv6 PBUs received for renew. |
| Accepted | Total number of PMIPv6 PBUs for renew accepted. |
| Denied | Total number of PMIPv6 PBUs for renew denied/failed during processing. |
| DeReg Requests | |
| Received | Total number of PMIPv6 PBUs received for Deregistration. |
| Accepted | Total number of PMIPv6 PBUs for Deregistration accepted. |
| Denied | Total number of PMIPv6 PBUs for deregistration denied. |
| Handoff Requests | |
| Received | Total number of PMIPv6 PBUs received for Handoff. |
| Accepted | Total number of PMIPv6 PBUs for Handoff accepted. |
| Denied | Total number of PMIPv6 PBUs for handoff denied. |
| DHCP Discover Handoff Stats | |
| Received | Total number of DHCP Discover messages received during handoff. |

| Field | Description |
|--------------------------------------|--|
| Accepted | Total number of DHCP Discover messages accepted during handoff. |
| Denied | Total number of DHCP Discover messages denied during handoff. |
| Binding Acknowledgements Sent | |
| Total | Total number of PMIPv6 PBAs sent. |
| Accepted Reg | Total number of PMIPv6 PBAs sent accepting registrations and renew. |
| Accepted DeReg | Total number of PMIPv6 Deregistration PBUs accepted sending PBAs. |
| Denied | Total number of PMIPv6 PBUs denied sending PBAs. |
| Send Error | Total number of PMIPv6 PBAs failed to send. |
| Binding Update Deny Reasons | |
| Insufficient Resource | Total number of PMIPv6 PBUs rejected with insufficient resources. |
| Mismatched ID | Total number of PMIPv6 PBUs rejected for mismatch in ID. |
| MN Auth Failure | Total number of PMIPv6 PBUs rejected for MN Authentication failure. |
| Admin Prohibited | Total number of PMIPv6 PBUs rejected for Administratively Prohibited reason. |
| Msg ID Required | Total number of PMIPv6 PBUs rejected for Message ID Required. |
| DAD Failed | Total number of PMIPv6 PBUs rejected for requested Home Address allocation failure. |
| Not Home Subnet | Total number of PMIPv6 PBUs rejected for address allocation failure from address pool. |
| Sequence Out Of Window | Total number of PMIPv6 PBUs rejected for incorrect sequence number. |
| Reg Type Change Disallowed | Total number of PMIPv6 PBUs rejected for renews. |
| Unspecified Reason | Total number of PMIPv6 PBUs rejected for other reasons. |
| Service-Authorization Failed | Total number of PMIPv6 PBUs rejected for authorization failure. |
| Proxy Reg Not Enabled | Total number of PMIPv6 PBUs rejected when proxy registrations are not enabled. |
| Timestamp Mismatch | Total number of PMIPv6 PBUs rejected when timestamp in PBU is incorrect. |

| Field | Description |
|--|---|
| Timestamp Lower Than Expected | Total number of PMIPv6 PBUs rejected when timestamp in PBU is in past. |
| Missing MN-ID Option | Total number of PMIPv6 PBUs rejected when MN NAI Extension is missing. |
| Missing HNP Option | Total number of PMIPv6 PBUs rejected when Home Network Prefix Extension is missing. |
| Missing Access Tech Option | Total number of PMIPv6 PBUs rejected when Access Tech Type Extension is missing. |
| Missing Handoff Ind Option | Total number of PMIPv6 PBUs rejected when Handoff Indicator is missing. |
| Not Authorized For HNP | Total number of PMIPv6 PBUs rejected when Requested Home Address Prefix is not authorized. |
| Not LMA For Mobile | Total number of PMIPv6 PBUs rejected when LMA for Mobile is incorrect. |
| Not Authorized For Proxy Reg | Total number of PMIPv6 PBUs rejected when Proxy registrations are not allowed. |
| BCE Prefix Do Not Match | Total number of PMIPv6 PBUs rejected when requested Prefix session is not found. |
| GRE Key Option Required | Total number of PMIPv6 PBUs rejected when GRE key option is not found. |
| MCOA Unknown CoA | Total number of PMIPv6 PBUs rejected when Care of Address is incorrect. |
| Update Denied - Insufficient Resource Reasons | |
| No Session Manager | Total number of Binding Update Request Denied because of no Session Manager is available. |
| No Memory | Total number of Binding Update Request Denied because of no Memory available. |
| Session Manager Rejected | Total number of Binding Update Request Denied because of Session Manager Rejection. |
| Input-Q Exceeded | Total number of Binding Update Request Denied because of Input queue size is exceeded. |
| Simul Bindings Exceeded | Total number of Binding Update Request Denied because of number of simultaneous Binding Updates exceeded. |
| Address Alloc Failed | Total number of Binding Update Request Denied because of address allocation failed. |

| Field | Description |
|---|---|
| Update Denied - Admin Prohibited Reasons | |
| MN-AAA Auth Option Missing | Total number of PMIPv6 PBUs denied due to MN AAA Authentication mobility option missing. |
| H-bit Not Set | Total number of PMIPv6 PBUs are denied due to H (Home Registration)-Bit not set. |
| Invalid MN-AAA Option SPI | Total number of PMIPv6 PBUs denied due to invalid MN-AAA Authentication mobility option. |
| Invalid MN-HA Option SPI | Total number of PMIPv6 PBUs are denied due to invalid MN-HA Authentication mobility option. |
| Congestion Control Denied | Total number of PMIPv6 PBUs denied due to overload congestion control. |
| Policy Rejected | Total number of PMIPv6 PBUs are denied due to policy rejection. |
| HoA Not Authorized | Total number of PMIPv6 PBUs are denied as Home Address is not authorized. |
| No Permission | Total number of PMIPv6 PBUs denied with no permission. |
| Bad Request | Total number of PMIPv6 PBUs denied due to bad request. |
| Binding Updates Discard Reasons | |
| Congestion Discarded | Total number of PMIPv6 PBUs discarded due to overload congestion. |
| Checksum Error | Total number of PMIPv6 PBUs discarded due to checksum errors. |
| Initial Auth Pending | Total number of PMIPv6 PBUs are discarded due to initial authentication pending. |
| Session Not Found | Total number of PMIPv6 PBU denied and discarded due to session not found. |
| HAMGR Not Ready | Total number of PMIPv6 PBUs discarded as HAMgr is not ready. |
| Decode Failure | Total number of PMIPv6 PBUs discarded due to failure to decode. |
| Invalid Buffer Length | Total number of PMIPv6 PBUs discarded due to invalid buffer length. |
| Revocation Pending | Total number of PMIPv6 PBUs discarded due to revocation pending for the session. |
| Binding Revocation | |
| Sent | Total number of PMIPv6 Binding Revocations sent. |
| Retries Sent | Total number of PMIPv6 Binding Revocation retries sent. |

| Field | Description |
|--|---|
| Ack Rcvd | Total number of PMIPv6 Binding Revocation Ack Messages received. |
| Not Acknowledged | Total number of PMIPv6 Binding Revocation Ack Timeouts. |
| Rcvd | Total number of PMIPv6 Binding Revocations received. |
| Ack Sent | Total number of PMIPv6 Binding Revocation Ack sent. |
| Sent Revocation Trigger Reasons | |
| Unspecified | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Unspecified (0). |
| Administrative Reason | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Administrative Reason (1). |
| Inter-MAG Handoff-Same ATT | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - same Access Type (2). |
| Inter-MAG - Unknown Handoff | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - Unknown (4). |
| Inter-MAG Handoff-Diff ATT | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - different Access Type (3). |
| Per-Peer Policy | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Per-Peer Policy (128). |
| Revoking Node Local Policy | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Revoking Mobility Node Local Policy (129). |
| User Initiated Session Term | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason User-Initiated Session(s) Termination (5). |
| Access Network Session Term | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Access Network Session(s) Termination (6). |
| Out-of Sync BCE State | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Possible Out-of-Sync BCE State (7). |
| Unknown | Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason other than defined values. |
| Received Revocation ACK Status | |

| Field | Description |
|---|---|
| Success | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as success (0). |
| Partial-Success | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as partial success (1). |
| Binding-Does-Not-Exist | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Binding Does NOT Exist (128). |
| No IPv4-HoA-Bind | Total number of Binding Revocation Acknowledgements (BRA) received with Status Code as IPv4 Home Address Option Required (129). |
| Global-Revoc-Not-Authorized | Total number of Binding Revocation Acknowledgements (BRA) received with Status Code as Global Revocation NOT Authorized (130). |
| Revoc-MN-ID-Required | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revoked Mobile Nodes Identity Required (131). |
| Revoc-Failed-MN-Attached | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Failed - MN is Attached (132). |
| Trigger-Not-Supported | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Trigger NOT Supported (133). |
| Proxy-Bind-Rev-Not-Supported | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Proxy Binding Revocation NOT Supported (135). |
| Revoc-Func-Not-Supported | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Function NOT Supported (134). |
| Unknown | Total number of Binding Revocation Acknowledgements(BRA) received with Status Code other than defined values. |
| Binding Revocation ACK Discarded | |
| Total | Total number of received Binding Revocation Acknowledgements(BRA) discarded. |
| Session Not Found | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to corresponding Session Not Found for the BRA. |
| Badly Formed Request | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Badly Formed message. |

| Field | Description |
|-------------------------------|---|
| Decode Error | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Decode failure. |
| Checksum Error | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Checksum Error. |
| Invalid Message Type | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Invalid Message Type. |
| HAMGR Not Ready | Total number of received Binding Revocation Acknowledgements (BRA) discarded due to HAMGR Not Ready to process requests (recovering). |
| Matching Request Not Found | Total number of received Binding Revocation Acknowledgements(BRA) discarded due to matching revocation request not found. |
| Invalid Buffer Length | Total number of received Binding Revocation Acknowledgements (BRA) discarded due to Invalid Buffer Length found while decoding the message. |
| PMIPv6 Data Statistics | |
| Tunnel Data Received | |
| Total Packets | |
| IPv4 GRE(IPv4) | Total number of IPv4 data packets received on IPv4 GRE tunnel. |
| IPv4 GRE(IPv6) | Total number of IPv6 data packets received on IPv4 GRE tunnel. |
| IPv6 GRE(IPv4) | Total number of IPv4 data packets received on IPv6 GRE tunnel. |
| IPv6 GRE(IPv6) | Total number of IPv6 data packets received on IPv6 GRE tunnel. |
| Total Bytes | |
| IPv4 GRE(IPv4) | Total bytes of IPv4 bytes received on IPv6 GRE tunnel. |
| IPv4 GRE(IPv6) | Total bytes of IPv4 bytes received on IPv6 GRE tunnel. |
| IPv6 GRE(IPv4) | Total number of IPv4 bytes received on IPv6 GRE tunnel. |
| IPv6 GRE(IPv6) | Total number of IPv6 bytes received on IPv6 GRE tunnel. |
| Total Errors | |
| Protocol Type Error | Total number of data packets received on IPv6 GRE tunnel with invalid next header. |
| Invalid Pkt Length | Total number of data packets received on IPv6 GRE tunnel with invalid length. |

| Field | Description |
|------------------------------|--|
| No Session Foun | Total number of data packets received on IPv6 GRE tunnel for which binding is not found at SaMOG based on CoA address. |
| Tunnel Data Sent | |
| Total Packets | |
| IPv4 GRE(IPv4) | Total number of IPv4 data packets sent on IPv4 GRE tunnel. |
| IPv4 GRE(IPv6) | Total number of IPv6 data packets sent on IPv4 GRE tunnel. |
| IPv6 GRE(IPv4) | Total number of IPv4 data packets sent on IPv6 GRE tunnel. |
| IPv6 GRE(IPv6) | Total number of IPv6 data packets sent on IPv6 GRE tunnel. |
| Total Bytes | |
| IPv4 GRE(IPv4) | Total bytes of IPv4 bytes sent on IPv4 GRE tunnel. |
| IPv4 GRE(IPv6) | Total bytes of IPv6 bytes sent on IPv4 GRE tunnel. |
| IPv6 GRE(IPv4) | Total number of IPv4 bytes sent on IPv6 GRE tunnel. |
| IPv6 GRE(IPv6) | Total number of IPv6 bytes sent on IPv6 GRE tunnel. |
| EoGRE Data Statistics | |
| Tunnel Data Received | |
| Total Packets | |
| IPv4 EoGRE(IPv4) | Total number of IPv4 payload packets received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport). |
| IPv4 EoGRE(IPv6) | Total number of IPv6 payload packets received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport) |
| IPv6 EoGRE(IPv4) | Total number of IPv4 payload packets received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| IPv6 EoGRE(IPv6) | Total number of IPv6 payload packets received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| Total Bytes | |
| IPv4 EoGRE(IPv4) | Total number of IPv4 payload bytes received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport). |
| IPv4 EoGRE(IPv6) | Total number of IPv6 payload bytes received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport) |
| IPv6 EoGRE(IPv4) | Total number of IPv4 payload bytes received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |

| Field | Description |
|-------------------------|---|
| IPv6 EoGRE(IPv6) | Total number of IPv6 payload bytes received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| Total Errors | |
| Drop Error | Total number of Data Packets dropped on EoGRE Tunnel. |
| Dest MAC Violation | Total number of destination MAC address in the packet received over the EoGRE tunnel that does not match with SaMOG's virtual MAC, broadcast, or multicast address. |
| Tunnel Data Sent | |
| Total Packets | Total number of IPv4 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport). |
| IPv4 EoGRE(IPv4) | Total number of IPv4 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport) |
| IPv4 EoGRE(IPv6) | Total number of IPv4 payload packets sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| IPv6 EoGRE(IPv4) | Total number of IPv6 payload packets sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| IPv6 EoGRE(IPv6) | Total number of IPv4 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport). |
| Total Bytes | Total number of data bytes sent on the EoGRE tunnel. |
| IPv4 EoGRE(IPv4) | Total number of IPv4 payload bytes sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport). |
| IPv4 EoGRE(IPv6) | Total number of IPv6 payload bytes sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport) |
| IPv6 EoGRE(IPv4) | Total number of IPv4 payload bytes sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |
| IPv6 EoGRE(IPv6) | Total number of IPv6 payload bytes sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport) |



CHAPTER 122

show sbc

This chapter includes the **show sbc** command output tables.

- [show sbc-service all](#), on page 1877
- [show sbc-service cbc-associations all](#), on page 1879
- [show sbc-service cbc-associations path-info all](#), on page 1879
- [show sbc-service statistics all](#), on page 1880

show sbc-service all

Table 491: show sbc-service all Command Output Descriptions

| Field | Description |
|------------------------------|--|
| Service name | The name of the service for which SBc statistics are being displayed. |
| Context | The name of the context configured on the system that is currently facilitating the SBc service. |
| Service-Id | The identification number of the service. |
| Status | The Operational status of the SBc service. |
| Bind | The Bind status of the SBc service. |
| SBc-MME IP Address | Displays the IP address of SBc interface on the MME side. |
| SCTP Port | Displays the SCTP Port number of the SBc interface on MME side. |
| Max SBc Associations Allowed | Displays the maximum number of CBC association allowed per SBc service. |
| SCTP Parameters | Displays the SCTP parameter template associated to SBc service. |
| SCTP Alpha | Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template. |

| Field | Description |
|--------------------------------|--|
| SCTP Beta | Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template. |
| SCTP Checksum Type | Displays the SCTP checksum type as configured in the SCTP Parameter Template. |
| SCTP Valid Cookie Lifetime | Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template. |
| SCTP Max Assoc Retrans | Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template. |
| SCTP Max Number of In Streams | Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Init Retransmissions | Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template. |
| SCTP Max MTU | Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Max Number of Out Streams | Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Path Retransmissions | Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template. |
| SCTP Min MTU | Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP RTO Initial | Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |
| SCTP RTO Max | Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |
| SCTP RTO Min | Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |
| SCTP Sack Frequency | Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template. |
| SCTP Sack Period | Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template. |
| SCTP Start MTU | Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Heartbeat Status | Displays the SCTP heartbeat status as configured in the SCTP Parameter Template. |
| SCTP HeartBeat Timer | Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template. |

| Field | Description |
|----------------------------|--|
| SCTP Bundle Status | Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template. |
| SCTP Bundle Timer | Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template. |
| SCTP Alternate Accept Flag | Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template. |

show sbc-service cbc-associations all

Table 492: show sbc-service cbc-associations all Command Output Descriptions

| Field | Description |
|------------------|---|
| MM | Indicates the MME Manager instance (showing first 2 characters). |
| PEERID | Displays the Peer ID number of the Cell Broadcast Center (CBC) association. |
| Sbc Service Name | Displays the SBc service name to which the CBC is associated. |
| Assoc UpTime | Displays the total uptime of the association between the MME and the CBC. |
| CBC IP:Port | Displays the IP address and port number of the CBC. Up to 2 IPv4 or 2 IPv6 addresses can be used by the same CBC with SCTP multi-homing. |

show sbc-service cbc-associations path-info all

Table 493: show sbc-service cbc-associations path-info all Command Output Descriptions

| Field | Description |
|----------------|--|
| MMS | Indicates the MME Manager instance (showing first 2 characters). S - indicates the status of the path, either (D) Disabled or (A) Active. |
| PEERID | Displays the Peer ID number of the Cell Broadcast Center (CBC) association. |
| Source IP:Port | Displays the IP address and port number of the MME. |
| Dest IP:Port | Displays the IP address and port number of the CBC. |

show sbc-service statistics all

Table 494: show sbc-service statistics all Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| Total Services(SBc) | Total number of SBc services configured on this system. |
| SBc Statistics | This group includes counters for data transmitted and received for all SBc services. |
| Transmitted SBc Data | This subgroup includes counters for data transmitted for all SBc services. |
| Total Transmitted | Total number of messages transmitted from the MME to all CBCs. |
| Transmit Errors | This subgroup includes counters for errors encountered while transmitting SBc messages towards CBC. |
| Transport Errors | Total number of failures, due to SCTP, while transmitting SBc messages towards CBC. |
| Encode Failures | Total number of failures in sending messages to CBC due to message encoding failures |
| No buffers | Total number of failures in sending messages to CBC due to memory allocation failures. |
| Transport Buffer Failure | Total memory allocation failures during sending of SBc message over SCTP. |
| Encode Buffer Failure | Total memory allocation failures during encoding of IEs for SBc message. |
| Write Replace Warning Response | The total number of Write-Replace Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted). |
| Tracking Area Not Valid | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid. |
| MME Capacity Exceeded | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded. |
| Warn Bcast Not Operational | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational. |
| Message Accepted | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted. |

| Field | Description |
|-------------------------------|--|
| Stop Warning Response | The total number of Stop Warning Responses sent for all SBC services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted) |
| Tracking Area Not Valid | The total number of Stop Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid. |
| MME Capacity Exceeded | The total number of Stop Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded. |
| Warn Bcast Not Operational | The total number of Stop Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational. |
| Message Accepted | The total number of Write Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted. |
| Error Indication | The total number of Error Indication messages sent from the MME to the CBC. |
| Received Sbc Data | This subgroup includes counters for data received for all Sbc services. |
| Total Received PDUs | The total number of messages received from all CBCs. |
| PDU Decode Success | The total number of successful PDU decodes. |
| Receive Errors | This subgroup includes counters for PDU receive errors. |
| No Sbc Association | The total number of received Sbc messages dropped due to no matching association. |
| PDU Decode Failures | The total number of received Sbc messages dropped due to PDU decode failure. |
| Write Replace Warning Request | The total number of Write Replace Warning Request messages received from the CBC. |
| TAI List Not Present | The total number of Write Replace Warning Request messages received from the CBC without a List-Of-TAIs IE. |
| Stop Warning Request | The total number of Stop Warning Request messages received from the CBC. |
| TAI List Not Present | The total number of Stop Warning Request messages received from the CBC without a List-Of-TAIs IE. |
| Error Indication | The total number of Error Indication messages received from the CBC. |
| IE Errors | The total number of CBC IE failures. |

| Field | Description |
|----------------------------|--|
| Protocol Error Statistics | This subgroup includes counters for Protocol Errors for all SBC services. |
| Unknown Procedures | The total number of messages encountered with Unknown Procedure codes. |
| Unknown IEs | The total number of messages encountered with Unknown IEs. |
| Unknown Messages | The total number of unrecognized messages encountered. |
| Missing Mandatory IEs | The total number of messages encountered with Missing Mandatory IE. |
| Transfer Syntax Error | The total number of messages encountered with a Transfer Syntax Error. |
| Semantic Error | The total number of messages encountered with a Semantic Error |
| Message Not Compatible | The total number of messages encountered with error: Message Not Compatible. |
| Others | The total number of parser internal messages. |
| Abstract Syntax Errors | This subgroup includes counters for Abstract Syntax Errors for all SBC services. |
| Reject | The total number of messages encountered with Abstract Syntax Error with Criticality: Reject. |
| Ignore and notify | The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore and Notify. |
| Ignore | The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore. |
| Falsely Constr Message | The total number of messages encountered with Abstract Syntax Error: Falsely Constructed message. |
| SBC Association Statistics | This subgroup includes counters related to SBC Associations for all SBC services. |
| Total Active | The total number of SBC Associations currently Active. |
| Total Created | The total number of SBC Associations created. |
| Total Closed | The total number of SBC Associations closed. |
| Total Rejected | The total number of SBC Associations rejected. |
| CBC Transactions Created | The total number of CBC transactions created. |
| CBC Transaction Failed | The total number of CBC transactions failed. |
| CBC Transaction Timeout | The total number of CBC transactions timed out. |

| Field | Description |
|--------------------------|---|
| SCTP Statistics | This group displays the statistics captured over the SCTP interface and processed by this SBc service. |
| Transmitted SCTP Data | This sub-group displays the statistics of the total data processed and transmitted over SCTP interface by this SBc service. |
| Init Chunks | Indicates the total SCTP packets with INIT transmitted over SCTP interface by this SBc service. |
| Init Ack Chunks | Indicates the total SCTP packets with INIT-ACK transmitted over SCTP interface by this SBc service. |
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN transmitted over SCTP interface by this SBc service. |
| Shutdown Ack Chunks | Indicates the total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this SBc service. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE transmitted over SCTP interface by this SBc service. |
| Cookie Ack Chunks | Indicates the total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this SBc service. |
| Data Chunks | Indicates the total SCTP packets with DATA transmitted over SCTP interface by this SBc service. |
| Data Ack Chunks | Indicates the total SCTP packets with DATA-ACK transmitted over SCTP interface by this SBc service. |
| Shutdown Complete Chunks | Indicates the total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this SBc service. |
| Heartbeat Chunks | Indicates the total SCTP packets with HEARTBEAT transmitted over SCTP interface by this SBc service. |
| HeartBeat Ack Chunks | Indicates the total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this SBc service. |
| Abort Chunks | Indicates the total SCTP packets with ABORT transmitted over SCTP interface by this SBc service. |
| Error Chunks | Indicates the total SCTP packets with ERROR transmitted over SCTP interface by this SBc service. |
| Received SCTP Data | This sub-group displays the statistics of the total data received over SCTP interface and processed by this SBc service. |
| Init Chunks | Indicates the total SCTP packets with INIT received over SCTP interface by this SBc service. |
| Init Ack Chunks | Indicates the total SCTP packets with INIT-ACK received over SCTP interface by this SBc service. |

| Field | Description |
|--------------------------|---|
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN received over SCTP interface by this SBc service. |
| Shutdown Ack Chunks | Indicates the total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this SBc service. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE received over SCTP interface by this SBc service. |
| Cookie Ack Chunks | Indicates the total SCTP packets with COOKIE-ACK received over SCTP interface by this SBc service. |
| Data Chunks | Indicates the total SCTP packets with DATA received over SCTP interface by this SBc service. |
| Data Ack Chunks | Indicates the total SCTP packets with DATA-ACK received over SCTP interface by this SBc service. |
| Shutdown Complete Chunks | Indicates the total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this SBc service. |
| Heartbeat Chunks | Indicates the total SCTP packets with HEARTBEAT received over SCTP interface by this SBc service. |
| HeartBeat Ack Chunks | Indicates the total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this SBc service. |
| Abort Chunks | Indicates the total SCTP packets with ABORT received over SCTP interface by this SBc service. |
| Error Chunks | Indicates the total SCTP packets with ERROR received over SCTP interface by this SBc service. |
| Retransmitted SCTP Data | This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this SBc service. |
| Init Chunks | Indicates the total SCTP packets with INIT retransmitted over SCTP interface by this SBc service. |
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this SBc service. |
| Shutdown Ack Chunks | indicates the total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this SBc service. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE retransmitted over SCTP interface by this SBc service. |
| Data Chunks | Indicates the total SCTP packets with DATA transmitted over SCTP interface by this SBc service. |
| Total Bytes Sent | Indicates the total bytes processed and sent to lower layer over SCTP interface by this SBc service. |

| Field | Description |
|------------------------|---|
| Total Bytes Received | Indicates the total bytes received from lower layer over SCTP interface by this SBc service for processing. |
| Total Packets Sent | Indicates the total packets processed and sent to lower layer over SCTP interface by this SBc service. |
| Total Packets Received | Indicates the total packets received from lower layer over SCTP interface by this SBc service for processing. |



CHAPTER 123

show security

This chapter includes the **show security** command output tables.



Important

The outputs of **show security** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- [show security server talos-intelligence](#) , on page 1887

show security server talos-intelligence

Table 495: show security server talos-intelligence

| Field | Description |
|-------------------|--|
| State Information | |
| State | The current state of the TSI controller, such as RUNNING, or NOT RUNNING. |
| Last DB Update | UTC time of most recent DB update. |
| Next DB Update | UTC time of next scheduled update. |
| Statistics | |
| Connect Attempts | Total number of attempted connections to the Mediator. |
| Connect Failures | Total number of failed connection attempts to the Mediator. |
| Message Failures | Total number of errors in response to message request to the mediator (ie, ECHO, VERDICT, MANIFEST). |
| FTP Failures | Total number of times the system failed to download a file via SFTP. |
| Message Timeouts | Total number of timeouts awaiting a message reply. |
| Storage Timeouts | Total number of timeouts waiting for local storage access. |

| Field | Description |
|------------------|---|
| Database Updates | Total number of times a successful set of DB updates was applied to SAS. |
| File Downloads | Total number of successful database file downloads. |
| Unexpected | Total number of unexpected conditions hit (Each results in a TSI controller error log message). |



CHAPTER 124

show session

This chapter describes the output of the **show session** command variants.

- [show session counters historical all](#), on page 1889
- [show session disconnect-reasons](#), on page 1890
- [show session disconnect-reasons buckets](#), on page 1891
- [show session disconnect-reasons verbose](#), on page 1892
- [show session progress](#), on page 1936
- [show session recovery status verbose](#), on page 1939
- [show session subsystem debug-info](#), on page 1940
- [show session subsystem facility allmgr all](#), on page 1941
- [show session subsystem facility aaamgr all](#), on page 1941
- [show session subsystem facility aaaproxy all](#), on page 1950
- [show session subsystem facility asngwmgr all](#), on page 1951
- [show session subsystem facility asnpcmgr all](#), on page 1952
- [show session subsystem facility egtpegmgr all](#), on page 1953
- [show session subsystem facility egtpinmgr all](#), on page 1954
- [show session subsystem facility famgr all](#), on page 1955
- [show session subsystem facility gtpcmgr all](#), on page 1955
- [show session subsystem facility hamgr all](#), on page 1956
- [show session subsystem facility ipsgmgr](#), on page 1957
- [show session subsystem facility mmedemux](#), on page 1958
- [show session subsystem facility mmemgr all](#), on page 1959
- [show session subsystem facility sessmgr all](#), on page 1968
- [show session summary](#), on page 1978
- [show session trace statistics](#), on page 1979
- [show session trace subscriber](#), on page 1980

show session counters historical all

Table 496: show session counters historical all Command Output Descriptions

| Header | Description |
|--------|---|
| Intv | The identification number of the sample interval. |

| Header | Description |
|-------------------------------------|---|
| Timestamp | The approximate time the data was gathered. It is in the format YYYY:MM:DD:HH:MM:SS. |
| Number of Calls | |
| Arrived | Displays data for "total calls arrived" counters. |
| Rejected | Displays data for "total calls rejected" counters. |
| Connected | Displays data for "total calls connected" counters. |
| Disconn | Displays data for "total calls disconnected" counters. |
| Failed | Displays data for "total calls failed" counters. |
| Handoffs | Displays data for "total handoffs" counters. |
| Renewals | Displays data for "total renewal" counters. |
| (A+R+D+F+H+R) CallOps | Displays data for all call operations. This is a calculated value based on the following formula: (arrived + rejected + disconnected + failed + handoffs + renewals) |
| Access Technology Categories | |
| Number of Calls 2G (GERAN) | The number of calls using 2G GERAN (GSM/EDGE Radio Access Network) technology. |
| Number of Calls 3G (UTRAN) | The number of calls using 3G UTRAN (UMTS Terrestrial Radio Access Network) technology. |
| Number of Calls 4G (EUTRAN) | The number of calls using 4G EUTRAN (Enhanced UMTS Terrestrial Radio Access Network) technology. |
| Number of Calls eHRPD | The number of eHRPD (evolved High Rate Packet Data [3GPP2]) calls. |
| Number of Calls WiFi (Wireless LAN) | The number of WiFi calls. |

show session disconnect-reasons

Table 497: show session disconnect-reasons Header Descriptions

| Field | Description |
|--------------------------------------|--|
| Session Disconnect Statistics | |
| Total Disconnects | The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared. |

| Field | Description |
|-------------------|--|
| Disconnect Reason | The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed. |
| Num Disc | The number of sessions disconnected for the reason. |
| Percentage | The percentage of total disconnects. |

show session disconnect-reasons buckets

This command only displays output if bucket interval CONNECTION_TIME has been configured via the Global Configuration mode **session disconnect-reasons bucket-interval** command.

This feature is configured via the CLI command which sets a time interval value that is sent to all sessmgrs. Each sessmgr fills buckets with disconnect reason counts indexed by the time interval. The time interval for filling the buckets is indexed relative to time hh:00. For example: if the time interval is 5 minutes, the bucket is filled at hh:00, hh:05, hh:10, hh:15. So if current time is 06:57, buckets with values will be 06:55:00, 06:50:00 and 06:45:00.

Table 498: show session disconnect-reasons buckets Header Descriptions

| Header | Description |
|-------------------|--|
| Total Disconnects | The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared. If CONNECTION_TIME is recently configured and the first timer has not expired (no buckets are filled yet), "NA" is displayed in place of timestamps for those buckets which are not filled. "NA" also appears if the buckets have been cleared with the clear session disconnect-reasons [buckets] command. |
| Disconnect Reason | The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed. |
| <i>interval</i> | Month-Day-Timestamp of the bucket interval. This column displays the cumulative count of disconnect reasons at that timestamp calculated since beginning. |
| Num Disc | The number of sessions disconnected for the associated reason during this bucket interval. |
| Percentage | The percentage of total disconnects for the associated reason during this bucket interval. |

show session disconnect-reasons verbose



Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 499: show session disconnect-reasons verbose Header Descriptions

| Header | Description |
|-------------------|--|
| Total Disconnects | The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared. |
| Disconnect Reason | The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed unless the verbose keyword is specified. |
| Num Disc | The total number of sessions disconnected for the associated reason. |
| Percentage | The percentage of total disconnects for the associated reason. |

In the following table, the indicator number at the end of the disconnect field name will vary depending upon the software build in which the **show session disconnect-reason** command is issued.

Table 500: show session disconnect-reasons Field Descriptions

| Field | Description |
|-------------|--|
| Unknown (0) | The total number of sessions disconnected due to unknown reason. |

| Field | Description |
|--------------------------------|--|
| Admin-disconnect (1) | <p>The total number of sessions disconnected due to any of the following reasons:</p> <ul style="list-style-type: none"> • Sessions disconnected when the Administrator issues the clear subscribers all CLI command. • Sessions disconnected by ECS due to any of the following reasons: <ul style="list-style-type: none"> • Bearer does not contain active rules—when the last bearer has no rules left as part of some PCRF trigger. • Charging-action has the flow action parameter configured as terminate-session. • Sessions disconnected by Diameter Credit Control Application (DCCA) due to any of the following reasons: <ul style="list-style-type: none"> • Result code 4010 or 4012 is received at the command level, and for CCR-Initial and CCR-Update Credit Control Failure Handling (CCFH) is configured as Terminate or Retry-and-Terminate. • Result code 5003 or 5030 is received at the command level. • Abort-Session-Request message is received. |
| Remote-disconnect (2) | The total number of sessions disconnected by the remote system. |
| Local-disconnect (3) | The total number of sessions disconnected by local system. |
| No-resource (4) | The total number of sessions disconnected due to non-availability of resources. |
| Service-limit-exceeded (5) | The total number of sessions disconnected due to exceed in service limit. |
| PPP-LCP-negotiation-failed (6) | The total number of sessions disconnected due to LCP negotiation failed. |
| PPP-LCP-no-response (7) | The total number of sessions disconnected due to no response in PPP-LCP session. |
| PPP-LCP-loopback-detected (8) | The total number of sessions disconnected due to loop back detected in PPP-LCP. |
| PPP-LCP-max-retry-reached (9) | The total number of sessions disconnected due to maximum retries in PPP-LCP session. |
| PPP-LCP-echo-failed (10) | The total number of sessions disconnected due to PPP-LCP echo not received. |

| Field | Description |
|--|--|
| PPP-Auth-failed (11) | The total number of sessions disconnected due to authorization failed in PPP. |
| PPP-Auth-failed-no-AAA-response (12) | The total number of sessions disconnected due to authorization failed by no response on AAA server. |
| PPP-Auth-failed-no-peer-response (13) | The total number of sessions disconnected due to PPP authorization failed on no peer response. |
| PPP-Auth-failed-max-retry-reached (14) | The total number of sessions disconnected due to PPP authorization failed and reaching maximum retries limit. |
| Invalid-APN | If ePDG will receive APN-NI that is not according to 3GPP standard then ePDG will reject the call. |
| Invalid-AAA-attr-in-auth-response (15) | The total number of sessions disconnected due to invalid AAA attributes in authorization response. |
| Could-not-apply-subscriber-ACL (16) | The total number of sessions disconnected due to inability in applying subscriber's Access Control List (ACL). |
| Could-not-provide-service (17) | The total number of sessions disconnected due to service is not available. |
| AAA-return-IP-address-not-valid (18) | The total number of sessions disconnected due to return IP address from AAA server is invalid. |
| Pool-IP-address-not-valid (19) | The total number of sessions disconnected due to IP address in pool is invalid. |
| PPP-IPCP-negotiation-failed (20) | The total number of sessions disconnected due to PPP-IPCP negotiation failed. |
| PPP-IPCP-no-response (21) | The total number of sessions disconnected due to no response in PPP-IPCP. |
| PPP-IPCP-max-retry-reached (22) | The total number of sessions disconnected due to maximum retries in PPP-IPCP session. |
| No-IPV4-address-for-subscriber (23) | The total number of sessions disconnected due to no IPv4 address are available for subscriber. |
| Inactivity-timeout (24) | The total number of sessions disconnected due to system time out limit for silence (ideal) reached. |
| Absolute-timeout (25) | The total number of sessions disconnected due to timeout in complete session. |
| Max-data-limit-exceeded (26) | The total number of sessions disconnected due to maximum data limit exceeded. |
| Invalid-source-IPV4-address (27) | The total number of sessions disconnected due to invalid IPv4 address of subscriber. |

| Field | Description |
|---------------------------------------|---|
| MSID-auth-failed (28) | The total number of sessions disconnected due to MSID authentication failed. |
| MSID-auth-failed-no-aaa-response (29) | The total number of sessions disconnected due to MSID authentication failed and/or no response from AAA server. |
| A11-max-retry-reached (30) | The total number of sessions disconnected due to maximum limit for retries reached for A11 interface. |
| A11-lifetime-expired (31) | The total number of sessions disconnected due to A11 interface lifetime expired. |
| A11-msg-integrity-failure (32) | The total number of sessions disconnected due to failure in message integrity in A11 interface. |
| PPP-LCP-remote-disconnect (33) | The total number of sessions disconnected due to PPP-LCP remote disconnect. |
| Session-setup-timeout (34) | The total number of sessions disconnected due to timeout in setting up of session. |
| PPP-keepalive-failure (35) | The total number of sessions disconnected due to PPP keepalive attribute failure. |
| Flow-add-failed (36) | The total number of sessions disconnected due to fail in adding flow to session. |
| Call-type-detection-failed (37) | The total number of sessions disconnected due to failure in call type detection. |
| Wrong-ipcp-params (38) | The total number of sessions disconnected due to IPCP parameters are wrong. |
| MIP-remote-dereg (39) | The total number of sessions disconnected due to de-registration of Mobile IP on remote system. |
| MIP-lifetime-expiry (40) | The total number of sessions disconnected due to expiry of Mobile IP life time. |
| MIP-proto-error (41) | The total number of sessions disconnected due to protocol error in Mobile IP. |
| MIP-auth-failure (42) | The total number of sessions disconnected due to Mobile IP authentication failure. |
| MIP-reg-timeout (43) | The total number of sessions disconnected due to registration request timeout. |
| Invalid-dest-context (44) | The total number of sessions disconnected due to invalid destination context. |
| Source-context-removed (45) | The total number of sessions disconnected due to source context is removed from system. |

| Field | Description |
|---|---|
| Destination-context-removed (46) | The total number of sessions disconnected due to destination context is removed from system. |
| Required-service-address-unavailable (47) | The total number of sessions disconnected due to unavailability of required service address. |
| demux-mgr-failed-could-not-restart (48) | The total number of sessions disconnected due to failure in demux-mgr. |
| internal-error (49) | The total number of sessions disconnected due to some internal system error. |
| AAA-context-removed (50) | The total number of sessions disconnected due to AAA context is removed from system. |
| invalid-service-type (51) | The total number of sessions disconnected due to invalid service type. |
| mip-relay-req-failed (52) | The total number of sessions disconnected due to failure in Mobile IP relay request. |
| mip-rcvd-relay-failure (53) | The total number of sessions disconnected due to failure in Mobile IP received. |
| ppp_restart_inter_pdsn_handoff (54) | The total number of sessions disconnected due to restart in inter PDSN handoff. |
| gre-key-mismatch (55) | The total number of sessions disconnected due to mismatch in Generic Routing Encapsulation (GRE) key. |
| invalid-tunnel-context (56) | The total number of sessions disconnected due to invalid Tunnel context. |
| no-peer-lns-address (57) | The total number of sessions disconnected due to no peer LNS address |
| failed-tunnel-connect (58) | The total number of sessions disconnected due to failure in Tunnel connect. |
| l2tp-tunnel-disconnect-remote (59) | The total number of sessions disconnected due to tunnel disconnected by remote system. |
| l2tp-tunnel-timeout (60) | The total number of sessions disconnected due to tunnel timeout. |
| l2tp-protocol-error-remote (61) | The total number of sessions disconnected due to protocol error on remote system. |
| l2tp-protocol-error-local (62) | The total number of sessions disconnected due to protocol error on local system. |
| l2tp-auth-failed-remote (63) | The total number of sessions disconnected due to authorization failed on remote system. |

| Field | Description |
|--|--|
| l2tp-auth-failed-local (64) | The total number of sessions disconnected due to authorization failed on local system |
| l2tp-try-another-lns-from-remote (65) | The total number of sessions disconnected due to remote system tried for another LNS. |
| l2tp-no-resource-local (66) | The total number of sessions disconnected due to non-availability of resource on local system. |
| l2tp-no-resource-remote (67) | The total number of sessions disconnected due to non-availability of resource on remote system. |
| l2tp-tunnel-disconnect-local (68) | The total number of sessions disconnected due to tunnel disconnected on local system. |
| l2tp-admin-disconnect-remote (69) | The total number of sessions disconnected by administrator on remote system. |
| l2tpmgr-reached-max-capacity (70) | The total number of sessions disconnected due to L2TP Manager logging facility reached to maximum logging capacity. |
| MIP-Reg-Revocation (71) | The total number of sessions disconnected due to a failure in Mobile IP registration revocation. |
| path-failure (72) | The total number of sessions disconnected due to path failure in connecting session. |
| Dhcp-Relay-IP-Validation-Failed (73) | The total number of sessions disconnected due to a failure with the validation of the IP addresses with DHCP relay method. |
| Gtp-unknown-pdp-addr-or-pdp-type (74) | The total number of sessions disconnected due to unknown PDP address or PDP type. |
| Gtp-all-dynamic-pdp-addr-occupied (75) | The total number of sessions disconnected due to all dynamic PDP addresses are occupied and no PDP address is available to allocate. |
| Gtp-no-memory-is-available (76) | The total number of sessions disconnected due to out of memory problem. |
| dhcp-relay-static-ip-addr-not-allowed (77) | The total number of sessions disconnected due to the mobile requesting the use of a static IP address when static IP address requests are not allowed. |
| dhcp-no-ip-addr-allocated (78) | The total number of sessions disconnected as no IP address is allocated on DHCP Server. |
| dhcp-ip-addr-allocation-tmr-exp (79) | The total number of sessions disconnected due to time expired for IP address allocation on DHCP Server. |

| Field | Description |
|--|--|
| dhcp-ip-validation-failed (80) | The total number of sessions disconnected due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context. |
| dhcp-static-addr-not-allowed (81) | The total number of sessions disconnected due to a failure with IP address in the static pool on destination context is not allowed by DHCP Server. |
| dhcp-ip-addr-not-available-at-present (82) | The total number of sessions disconnected due to non availability of IP address on DHCP Server. |
| dhcp-lease-expired (83) | The total number of sessions disconnected due to expiration of IP address lease time. |
| lpool-ip-validation-failed (84) | The total number of sessions disconnected due to validation failure of IP address in IP pool. |
| lpool-static-ip-addr-not-allowed (85) | The total number of sessions disconnected due to specified static IP address is not allowed in IP pool. |
| static-ip-validation-failed (86) | The total number of sessions disconnected due to a failure in validation of static IP address on remote system. |
| static-ip-addr-not-present (87) | The total number of sessions disconnected due to allocated static address is removed or not available. |
| static-ip-addr-not-allowed (88) | The total number of sessions disconnected due to prohibition of defined static IP address. |
| radius-ip-validation-failed (89) | The total number of sessions disconnected due to a failure in IP address validation on RADIUS. |
| radius-ip-addr-not-provided (90) | The total number of sessions disconnected due to IP address is not provided by RADIUS. |
| invalid-ip-addr-from-sgsn (91) | The total number of sessions disconnected due to invalid IP address received from SGSN. |
| no-more-sessions-in-aaa (92) | The total number of sessions disconnected due to sessions cleared in AAA. |
| ggsn-aaa-auth-req-failed (93) | The total number of sessions disconnected due to authentication request failure between GGSN and AAA server. |
| conflict-in-ip-addr-assignment (94) | The total number of sessions disconnected due to conflict in IP address assignment. |
| apn-removed (95) | The total number of sessions disconnected due to APN removed during session. |
| credits-used-bytes-in (96) | The total number of sessions disconnected due to exceeding the incoming data/bytes credit. |

| Field | Description |
|---|--|
| credits-used-bytes-out (97) | The total number of sessions disconnected due to exceeding the outgoing data/bytes credit. |
| credits-used-bytes-total (98) | The total number of sessions disconnected due to exceeding the total data/bytes credit. |
| prepaid-failed (99) | The total number of sessions disconnected due to a failure in processing prepaid account information. |
| l2tp-ipsec-tunnel-failure (100) | The total number of sessions disconnected due to the IPSec tunnel being failed to connect. |
| l2tp-ipsec-tunnel-disconnected (101) | The total number of sessions disconnected due to the IPSec tunnel being disconnected. |
| mip-ipsec-sa-inactive (102) | The total number of sessions disconnected due to inactive security association (sa) of IPSec for specific Mobile IP address. |
| Long-duration-timeout (103) | The total number of sessions disconnected due to the expiration of the configured long-duration timer. |
| proxy-mip-registration-failure (104) | The total number of Proxy Mobile IP sessions disconnected due to Registration failures. |
| proxy-mip-binding-update (105) | The total number of Proxy Mobile IP sessions disconnected due to errors occurring during binding updates. |
| proxy-mip-inter-pdsn-handoff-require-ip-address (106) | The total number of Proxy Mobile IP sessions disconnected due to the mobile not providing the IP address it was assigned during IPCP negotiations resulting from inter-PDSN handoffs. |
| proxy-mip-inter-pdsn-handoff-mismatched-address (107) | The total number of Proxy Mobile IP sessions disconnected due to the mobile providing an IP address other than what it was assigned during IPCP negotiations resulting from inter-PDSN handoffs. |
| Local-purge (108) | The total number of sessions disconnected due to a locally-initiated purge. |
| failed-update-handoff (109) | The total number of sessions disconnected due to failure in update handoff. |
| closed_rp-handoff-complete (110) | The total number of sessions disconnected due to handoff completed. |
| closed_rp-duplicate-session (111) | The total number of sessions disconnected due to duplicate session. |
| closed_rp-handoff-session-not-found (112) | The total number of sessions disconnected due to hand off session not found. |
| closed_rp-handoff-failed (113) | The total number of sessions disconnected due to handoff failed for session. |

| Field | Description |
|-------------------------------------|---|
| pcf-monitor-keep-alive-failed (114) | The total number of sessions disconnected due to the expiration of the configured max-inactivity timer indicating that the PCF was unavailable. |
| call-internal-reject (115) | The total number of sessions disconnected due to call rejected internally. |
| call-restarted (116) | The total number of sessions disconnected due to call restarted on unknown reason. |
| a11-mn-ha-auth-failure (117) | The total number of sessions disconnected due to failure in authentication between Mobile node and Home Agent (HA). |
| a11-badly-formed (118) | The total number of sessions disconnected as A11 interface is formed badly. |
| a11-t-bit-not-set (119) | The total number of sessions disconnected due to t-bit is not set in interface. |
| a11-unsupported-vendor-id (120) | The total number of sessions disconnected due to unsupported vendor Id in interface. |
| a11-mismatched-id (121) | The total number of sessions disconnected due to mismatched Id in A11 interface. |
| mipha-dup-home-addr-req (122) | The total number of sessions disconnected due to duplicate home address request on HA. |
| mipha-dup-imsi-session (123) | The total number of sessions disconnected due to duplicate IMSI in session on HA. |
| ha-unreachable (124) | The total number of sessions disconnected due to unreachable HA. |
| IPSP-addr-in-use (125) | The total number of sessions disconnected due to IP Pool Sharing Protocol address is in use/not free on HA. |
| mipfa-dup-home-addr-req (126) | The total number of sessions disconnected due to duplicate home address request on FA. |
| mipha-ip-pool-busyout (127) | The total number of sessions disconnected due to IP pool busyout. |
| inter-pdsn-handoff (128) | The total number of sessions disconnected due to inter-PDSN handoff failure. |
| active-to-dormant (129) | The total number of sessions disconnected due to system enters to dormant state from active state. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |

| Field | Description |
|---|--|
| ppp-renegotiation (130) | The total number of sessions disconnected due to failure/conflict in PPP renegotiation. |
| active-start-parameter-change (131) | The total number of sessions disconnected due to change in start parameters. |
| accounting-tariff-boundary (132) | The total number of sessions disconnected due to the closure of an accounting record based configured tariff time. |
| a11-disconnect-no-active-stop (133) | The total number of sessions disconnected due to A11 interface is not active or stopped. |
| nw-reachability-failed-reject (134) | The total number of sessions disconnected due to failure in network reachability and request rejected. |
| nw-reachability-failed-redirect (135) | The total number of sessions disconnected due to failure in network reachability and request redirected. |
| container-max-exceeded (136) | The total number of sessions disconnected due to the closure of an accounting record based on the configured maximum number of container changes being exceeded. |
| static-addr-not-allowed-in-apn (137) | The total number of sessions disconnected due to static IP address is not allowed in APN. |
| static-addr-required-by-radius (138) | The total number of sessions disconnected due to static IP address required by RADIUS. |
| static-addr-not-allowed-by-radius (139) | The total number of sessions disconnected due to static IP address is not allowed by RADIUS. |
| mip-registration-dropped (140) | The total number of sessions disconnected due to registration dropped for Mobile IP address. |
| counter-rollover (141) | The total number of sessions disconnected due to counter rollover. |
| constructed-nai-auth-failed (142) | The total number of sessions disconnected due to authentication failure in subscriber's Network Access Identifier (NAI). |
| inter-pdsn-service-optimize-handoff-disabled (143) | The total number of sessions disconnected due to disabled inter-PDSN service optimization handoff. |
| gre-key-collision (144) | The total number of sessions disconnected due to collision in Generic Routing Encapsulation (GRE) key. |
| inter-pdsn-service-optimize-handoff-triggered (145) | The total number of sessions disconnected when inter PDSN service optimization handoff triggered. |
| intra-pdsn-handoff-triggered (146) | The total number of sessions disconnected when intra-PDSN service optimization handoff triggered. |
| delayed-abort-timer-expired (147) | The total number of sessions disconnected due to abort timer duration expired. |

| Field | Description |
|---|--|
| Admin-AAA-disconnect (148) | The total number of sessions disconnected as AAA server disconnected Administratively. |
| Admin-AAA-disconnect-handoff (149) | The total number of sessions disconnected due to AAA handoff disconnected Administratively. |
| PPP-IPV6CP-negotiation-failed (150) | The total number of sessions disconnected due to IPv6CP negotiation failed. |
| PPP-IPV6CP-no-response (151) | The total number of sessions disconnected due to no response during IPv6CP negotiation. |
| PPP-IPV6CP-max-retry-reached (152) | The total number of sessions disconnected due to maximum retries failed on IPv6CP negotiation. |
| PPP-Restart-Invalid-source-IPV4-address (153) | The total number of sessions disconnected due to PPP restarted by invalid Pv4 address of source. |
| a11-disconnect-handoff-no-active-stop (154) | The total number of sessions disconnected due to handoff in A11 interface is not active or stopped. |
| call-restarted-inter-pdsn-handoff (155) | The total number of sessions disconnected due to call restarted during inter PDSN handoff. |
| call-restarted-ppp-termination (156) | The total number of sessions disconnected due to call restarted on PPP termination. |
| mipfa-resource-conflict (157) | The total number of sessions disconnected due to resource conflict on FA. |
| failed-auth-with-charging-svc (158) | The total number of sessions disconnected due to authentication failure in charging services. |
| mipha-dup-imsi-session-purge (159) | The total number of sessions disconnected due to clearing of duplicate IMSI in session on HA. |
| mipha-rev-pending-newcall (160) | The total number of sessions disconnected due to revival of pending new calls. |
| volume-quota-reached (161) | The total number of sessions disconnected due to allocated data quota volume reached. |
| duration-quota-reached (162) | The total number of sessions disconnected due to time-out reached. |
| gtp-user-auth-failed (163) | The total number of sessions disconnected due to a failure in user/subscriber authentication. |
| MIP-Reg-Revocation-no-lcp-term (164) | The total number of sessions disconnected due to termination of an MIP Session for a Revocation being received from the HA and the PDSN is not configured to send a LCP Terminate Request. |
| MIP-private-ip-no-rev-tunnel (165) | The total number of sessions disconnected due to no reverse tunnel for MIP. |

| Field | Description |
|---|---|
| Invalid-Prepaid-AAA-attr-in-auth-response (166) | The total number of sessions disconnected due to invalid Prepaid attribute in authentication response. |
| mipha-prepaid-reset-dynamic-newcall (167) | The total number of MIP HA sessions disconnected due to receiving MIP registration with a home address of 0.0.0.0. |
| gre-flow-control-timeout (168) | The total number of RP sessions disconnected due to the PCF not removing flow control for a specified amount of time if GRE flow control for RP sessions is enabled. |
| mip-paaa-bc-query-not-found (169) | The total number of sessions that were disconnected because the binding cache was not found. |
| mipha-dynamic-ip-addr-not-available (170) | The total number of MIP HA sessions that were disconnected because a dynamic IP address was not available. |
| a11-mismatched-id-on-handoff (171) | The total number of sessions disconnected due to a mismatched ID in the A11 interface during a handoff. |
| a11-badly-formed-on-handoff (172) | The total number of sessions disconnected because the A11 interface is formed badly during a handoff. |
| a11-unsupported-vendor-id-on-handoff (173) | The total number of sessions disconnected due to unsupported vendor Id in the A11 interface during a handoff. |
| a11-t-bit-not-set-on-handoff (174) | The total number of sessions disconnected due to t-bit is not set in the A11 interface during a handoff. |
| MIP-Reg-Revocation-i-bit-on (175) | The total number of Mobile IP sessions disconnected at the PDSN/FA due to Revocation received from HA (with I bit set). |
| a11-RRQ-Deny-Max-Count (176) | The total number of sessions disconnected due to failures in processing A11-Registration-Request despite retries of the message by the PCF. |
| Dormant-Transition-During-Session-Setup (177) | The total number of sessions disconnected because they entered the dormant state during session setup. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| PPP-Rem-Reneg-Disc-Always-Cfg (178) | The total number of PPP sessions disconnected because they were renegotiated by the remote side by sending LCP Conf-req/nak/ack and the "always" option was used for the remote-renegotiation disconnect command/attribute. |
| PPP-Rem-Reneg-Disc-NAI-MSID-Mismatch (179) | The total number of PPP sessions disconnected because they were renegotiated by the remote side by sending LCP Conf-req/nak/ack and the "nai-prefix-msid-mismatch" option was used for the remote-renegotiation disconnect command/attribute. |

| Field | Description |
|--|--|
| mipha-subscriber-ipsec-tunnel-down (180) | The total number of subscribers disconnected because the IPSec tunnel facilitating their sessions went down. |
| mipha-subscriber-ipsec-tunnel-failed (181) | The total number of subscribers disconnected because an IPSec tunnel failed to be established. |
| mipha-subscriber-ipsecmgr-death (182) | The total number of subscribers disconnected because the IPSec Manager software task facilitating their sessions crashed. |
| flow-is-deactivated (183) | The total number of sessions disconnected because their respective flow was deactivated. |
| ecs-license-exceeded (184) | The total number of sessions disconnected because the licensed session capacity for the Enhanced Charging Service feature has been exceeded. |
| IPSG-Auth-failed (185) | The total number of sessions disconnected because IPSG authentication failed. |
| driver-initiated (186) | The total number of sessions disconnected due to driver initiation. |
| ims-authorization-failed (187) | The total number of sessions disconnected because of IMS authorization failures. |
| service-instance-released (188) | The total number of sessions disconnected because they were released by the service instances facilitating them. |
| flow-released (189) | The total number of sessions disconnected because their respective flows were released. |
| ppp-renego-no-ha-addr (190) | The total number of sessions disconnect because no HA address was supplied during PPP renegotiation. |
| intra-pdsn-handoff (191) | The total number of sessions disconnected during an intra-PDSN service handoff. |
| overload-disconnect (192) | The total number of sessions disconnected because the configured overload-disconnect threshold has been exceeded. |
| css-service-not-found (193) | The total number of sessions because the CSS service specified for handling the session was not found. |
| Auth-failed (194) | Total number of session authorizations failed due to rejection at OCS (Gy) or other AAA servers. |
| dhcp-client-sent-release (195) | The total number of sessions disconnected because the DHCP client sent a release. |
| dhcp-client-sent-nak (196) | The total number of sessions disconnected because the DHCP client sent a negative acknowledge message. |

| Field | Description |
|-------------------------------------|--|
| msid-dhcp-chaddr-mismatch (197) | The total number of sessions disconnected because the DHCP Client Hardware (MAC) Address (CHADDR) does not match with MSID of the ASN-GW session. |
| link-broken(198) | The total number of sessions disconnected because the link between the SGSN and the GGSN is broken resulting in the termination of ongoing Diameter Credit-Control sessions with the DIAMETER_LINK_BROKEN termination-cause. |
| prog-end-timeout(199) | The total number of sessions disconnected because the allowed BCMCS program limit time expires. |
| qos-update-wait-timeout(200) | The total number of sessions disconnected because the PDSN failed to update QoS for them. |
| css-synch-cause(201) | The total number of sessions disconnected because the session-audit between the ACS Manager task and Session Manager disconnects any dangling sessions in the Session Manager. |
| Gtp-context-replacement(202) | The total number of sessions disconnected due to GTP context replacement. |
| PDIF-Auth-failed(203) | The total number of sessions disconnected due to PDIF authentication process unable to set up a secure IPSec tunnel to subscriber. |
| l2tp-unknown-apn(204) | The total number of sessions disconnected due to unknown APN in L2TP message. |
| ms-unexpected-network-reentry(205) | The total number of sessions disconnected due unexpected network reentry by MS in WiMAX network. |
| r6-invalid-nai(206) | The total number of sessions disconnected due invalid NAI in R6 message in WiMAX network. |
| eap-max-retry-reached(207) | The total number of sessions disconnected due maximum retry limit for EAP authentication exhausted in WiMAX network. |
| vbm-hoa-session-disconnected(208) | vbm-hoa-session-disconnected |
| vbm-voa-session-disconnected(209) | vbm-voa-session-disconnected |
| in-acl-disconnect-on-violation(210) | in-acl-disconnect-on-violation |
| eap-msk-lifetime-expiry(211) | The total number of sessions disconnected due to EAP Master Session Key lifetime expiry in WiMAX network. |
| eap-msk-lifetime-too-low(212) | The total number of sessions disconnected due to EAP Master Session Key lifetime is too less to allow session. |
| inter-service-handoff(213) | The total number of sessions disconnected due to inter-service handoff in WiMAX network. |

| Field | Description |
|--|---|
| r6-max-retry-reached(214) | The total number of sessions disconnected due to maximum retry limit for R6 message exhausted in WiMAX network. |
| r6-nwexit-recd(215) | The total number of sessions disconnected due to network exit message received on R6 interface in WiMAX network. |
| r6-dereg-req-recd(216) | The total number of sessions disconnected due to de-registration message received on R6 interface in WiMAX network. |
| r6-remote-failure(217) | The total number of sessions disconnected due to remote peer failure on R6 interface in WiMAX network. |
| r6r4-protocol-errors(218) | The total number of sessions disconnected due to protocol error on R6 and/or R4 interface in WiMAX network. |
| wimax-qos-invalid-aaa-attr(219) | The total number of sessions disconnected due to invalid AAA attributes for QoS to a subscriber in WiMAX network. |
| npu-gre-flows-not-available(220) | The total number of sessions disconnected due to requested NPU GRE flow is not available for a subscriber in WiMAX network. |
| r4-max-retry-reached(221) | The total number of sessions disconnected due to maximum retry limit for R4 message exhausted in WiMAX network. |
| r4-nwexit-recd(222) | The total number of sessions disconnected due to network exit message received on R4 interface in WiMAX network. |
| r4-dereg-req-recd(223) | The total number of sessions disconnected due to de-registration message received on R4 interface in WiMAX network. |
| r4-remote-failure(224) | The total number of sessions disconnected due to remote peer failure on R4 interface in WiMAX network. |
| ims-authorization-revoked(225) | The total number of sessions disconnected due to IMS authorization revoked. |
| ims-authorization-released(226) | The total number of sessions disconnected due to IMS authorization released. |
| ims-auth-decision-invalid(227) | The total number of sessions disconnected due to invalid IMS authorization decision. |
| mac-addr-validation-failed(228) | The total number of sessions disconnected due to MAC address validation failure in WiMAX network. |
| excessive-wimax-pd-flows-configured(229) | The total number of sessions disconnected due to excessive packet data flows are configured in WiMAX network. |
| sgsn-cancel-location-subs-withdrawn(230) | The total number of sessions disconnected due to cancellation of the request to location substitution withdrawn. |
| sgsn-cancel-location-update(231) | The total number of sessions disconnected because the cancellation of the location update. |

| Field | Description |
|--|--|
| sgsn-mnr-expiry(232) | The total number of sessions disconnected due to manager expiry. |
| sgsn-identity-failure(233) | The total number of sessions disconnected due to identity check failure. |
| sgsn-security-failure(234) | The total number of sessions disconnected due to security verification failure. |
| sgsn-auth-failure(235) | The total number of sessions disconnected due to authentication failure. |
| sgsn-glu-failure(236) | The total number of sessions disconnected due to GLU failure. |
| sgsn-implicit-detach(237) | <p>Description: The total number of sessions disconnected due to an implicit detach.</p> <p>Trigger: Pegs when the 2G-SGSN rejects an Attach Request due to same Random-TLLI collision If handling of Random-TLLI collision is enabled via the SGSN Global Configuration mode command 'gmm-message attach-with-tlli-in-use discard-message [only-on-same-nsei]'.</p> |
| sgsn-subscriber-moved-to-different-smgr-instanc(238) | The total number of sessions disconnected due to subscriber moving to a different SMGR instance. |
| sgsn-subscriber-moved-to-peer-sgsn(239) | The total number of sessions disconnected due to subscriber moving to a peer SGSN. |
| sgsn-dns-failure-inter-rau(240) | The total number of sessions disconnected due to DNS failure during Inter-RAU. |
| sgsn-context-response-failure(241) | The total number of sessions disconnected due to context response failure. |
| sgsn-hlr-not-found-for-imsi(242) | The total number of sessions disconnected due to HLR not found for particular IMSI. |
| sgsn-ms-init-detach(243) | The total number of sessions disconnected due to MS initiated detach. |
| sgsn-roaming-not-allowed(244) | The total number of sessions disconnected because MS was not allowed to roam. |
| sgsn-duplicate-context(245) | The total number of sessions disconnected due to duplicate context. |
| hss-profile-update-failed(246) | The total number of sessions disconnected due to failure of profile update. |
| inactive-without-activating-any-pdp(247) | The total number of sessions disconnected where session is inactive and no PDP context is activated from this session. |

| Field | Description |
|--|---|
| asnpc-idle-mode-timeout(248) | The total number of sessions disconnected due to configured idle mode timeout duration is exhausted for ASN paging controller in WiMAX network. |
| asnpc-idle-mode-exit(249) | The total number of sessions disconnected due to idle mode exit message for ASN paging controller in WiMAX network. |
| asnpc-idle-mode-entry-auth-failed(250) | The total number of sessions disconnected due to authentication failure during idle mode entry for ASN paging controller in WiMAX network. |
| asn timer invalid-qos-configuration(251) | The total number of sessions disconnected due to invalid QoS configuration for subscriber in WiMAX network. |
| sgsn-dsd-allgprswithdrawn(252) | The total number of sessions disconnected due to the SGSN receiving a DSD message from the HLR, with the "All GPRS subscription withdrawn" flag set to true. The SGSN responds as if receiving a cancel location (subscription withdrawn) and clears the subscriber fully using this disconnect reason. |
| r6-pmk-key-change-failure(253) | The total number of sessions disconnected due to primary master key change failure on R6 interface in WiMAX network. |
| sgsn-illegal-me(254) | The total number of sessions disconnected because the ME was illegal. |
| sess-termination-timeout(255) | The total number of sessions disconnected due to failure monitored through BS monitor keep-alive probe. |
| sgsn-sai-failure(256) | The total number of sessions disconnected due to error in SGSN attachment in registration state. |
| sgsn-rnc-removal(257) | The total number of sessions disconnected due to error in SGSN inbound SRNS in registration state. |
| sgsn-rai-removal(258) | The total number of sessions disconnected due to error in Update PDP Context Response message for direct tunnel functionality. Direct tunnel functionality at GGSN was expecting some fields which were not received in the Update PDP Context Response message. Hence, GGSN was not able to establish tunnel appropriately with SGSN or RNC. |
| sgsn-init-deact(259) | The total number of sessions disconnected at SGSN due to unknown PDP context. |
| ggsn-init-deact(260) | The total number of sessions disconnected at SGSN due to PDP authentication failed. |
| hlr-init-deact(261) | The total number of sessions disconnected at SGSN due to duplicate PDP context |

| Field | Description |
|-------------------------------------|---|
| ms-init-deact(262) | The total number of sessions disconnected at SGSN due to no response from GGSN. |
| sgsn-detach-init-deact(263) | The total number of sessions disconnected at SGSN due to failed response from GGSN. |
| sgsn-rab-rel-init-deact(264) | The total number of sessions disconnected at SGSN due to unknown APN. |
| sgsn-iu-rel-init-deact(265) | The total number of sessions disconnected at SGSN due to service request initiated deactivation. |
| sgsn-gtpu-path-failure(266) | The total number of sessions disconnected at SGSN due to attachment procedure initiated abort. |
| sgsn-gtpc-path-failure(267) | The total number of sessions disconnected at SGSN due to ISRAU initiated abort procedure. |
| sgsn-local-handoff-init-deact(268) | The total number of sessions disconnected at SGSN due to unknown APN. |
| sgsn-remote-handoff-init-deact(269) | The total number of sessions disconnected at SGSN due to MM context cleanup initiated abort procedure. |
| sgsn-gtp-no-resource(270) | The total number of sessions disconnected at SGSN due to unknown abort procedure. |
| sgsn-rmc-no-resource(271) | The total number of sessions disconnected at SGSN due to abort procedure started by guard timeout. |
| sgsn-odb-init-deact(272) | The total number of sessions disconnected at SGSN due to abort procedure initiated on DHCP IP validate request. |
| sgsn-invalid-ti(273) | The total number of sessions disconnected due to id mismatch in MIPv6 session. |
| sgsn-actv-rejected-due-to-rmc(274) | The total number of sessions disconnected as AAA session id not-found |
| sgsn-apn-restrict-vio(275) | The total number of sessions disconnected due to security associate rekeying failure. |
| sgsn-actv-rejected-by-sgsn(276) | The total number of sessions disconnected due to failure in relocation in ASN-PC service. |
| sgsn-abnormal-deact(277) | The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service. |
| sgsn-actv-rejected-by-ggsn(278) | The total number of sessions disconnected due to mismatch in authentication policy. |
| sgsn-err-ind(279) | The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller. |

| Field | Description |
|---|--|
| asn timer non-anchor-prohibited(280) | The total number of sessions disconnected due to non-anchor ASN GW being prohibited. |
| asn timer im-entry-prohibited(281) | The total number of sessions disconnected due to unknown reason. |
| Session-idle-mode-entry-timeout(282) | The total number of sessions disconnected Administratively. |
| session-idle-mode-exit-timeout(283) | The total number of sessions disconnected by remote system |
| asn timer ms-power-down-nwexit(284) | The total number of sessions disconnected by local system. |
| asn timer r4-nwexit-recd(285) | The total number of sessions disconnected due to non-availability of resources. |
| sgsn timer iu-rel-before-call-est(286) | The total number of sessions disconnected because of Iu Release during call establishment when service limits exceeded. |
| ikev2-subscriber-ipsecmgr-death(287) | The total number of sessions disconnected due to LCP negotiation failed. |
| All-dynamic-pool-addr-occupied(288) | The total number of sessions disconnected due to no response in PPP-LCP session. |
| mipv6ha-ip-addr-not-available(289) | The total number of sessions disconnected due to loop back detected in PPP-LCP. |
| bs-monitor-keep-alive-failed(290) | The total number of sessions disconnected due to failure monitored through BS monitor keep-alive probe. |
| sgsn timer attach-in-reg-state(291) | The total number of SGSN sessions disconnected due to an error in the SGSN attachment during the registration state. |
| sgsn timer inbound-srns-in-reg-state(292) | The total number of SGSN sessions disconnected due to an error in the SGSN inbound SRNS in a registration state. |
| dt-ggsn-tun-reestablish-failed(293) | The total number of SGSN sessions disconnected due to error in Update PDP Context Response message for direct tunnel functionality. Direct tunnel functionality at GGSN was expecting some fields which were not received in the Update PDP Context Response message. Hence, the GGSN was not able to establish a tunnel appropriately with the SGSN or the RNC. |
| sgsn timer pdp-unknown(294) | The total number of SGSN sessions disconnected due to an unknown PDP context. |
| sgsn timer pdp-auth-failure(295) | The total number of SGSN sessions disconnected because the PDP authentication failed. |
| sgsn timer duplicate-pdp-context(296) | The total number of SGSN sessions disconnected due to duplicate PDP contexts. |
| sgsn timer no-rsp-from-ggsn(297) | The total number of SGSN sessions disconnected because the SGSN does not receive a response from the GGSN. |

| Field | Description |
|---------------------------------------|---|
| sgsn-failure-rsp-from-ggsn(298) | The total number of SGSN sessions disconnected due to failed response from the GGSN. |
| sgsn-apn-unknown(299) | The total number of SGSN sessions disconnected due to an unknown APN. |
| sgsn-pdp-status-mismatch(300) | The total number of SGSN sessions disconnected due to deactivation initiated by a service request. |
| sgsn-attach-on-attach-init-abort(301) | The total number of SGSN sessions disconnected due to an attachment procedure-initiated abort. |
| sgsn-iu-rel-in-israu-init-abort(302) | The total number of SGSN sessions disconnected due to an ISRAU-initiated abort procedure. |
| sgsn-smgr-init-abort(303) | The total number of SGSN sessions disconnected because the SessMgr initiates an abort. |
| sgsn-mm-ctx-cleanup-init-abort(304) | The total number of SGSN sessions disconnected due to the MM context cleanup-initiated abort procedure. |
| sgsn-unknown-abort(305) | The total number of SGSN sessions disconnected due to an unknown abort procedure. |
| sgsn-guard-timeout-abort(306) | The total number of SGSN sessions disconnected because the abort procedure was started by the guard timer timeout. |
| vpn-bounce-dhcpip-validate-req(307) | The total number of SGSN sessions disconnected because the abort procedure was initiated upon receiving a DHCP IP validate request. |
| mipv6-id-mismatch(308) | The total number of sessions disconnected due to id mismatch in MIPv6 session. |
| aaa-session-id-not-found(309) | The total number of sessions disconnected as AAA session id not-found |
| x1/x5-max-retry-reached(310) | The total number of sessions disconnected due to security associate rekeying failure. |
| x1-nwexit-recd(311) | The total number of sessions disconnected due to failure in relocation in ASN-PC service. |
| x1-dereg-req-recd(312) | The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service. |
| x1-remote-failure(313) | The total number of sessions disconnected due to mismatch in authentication policy. |
| x1x2-protocol-errors(314) | The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller. |

| Field | Description |
|---|--|
| x2/x6-max-retry-reached(315) | The total number of sessions disconnected because the ASNGW TID entry was not found. |
| x2/x6-nwexit-recd(316) | The total number of sessions disconnected due to network exit message received on X2 interface in PHS network. |
| x2-dereg-req-recd(317) | The total number of sessions disconnected due to deregistration request received on X2 interface in PHS network. |
| x2-remote-failure(318) | The total number of sessions disconnected by remote system due to failure on X2 interface in PHS network. |
| x1-pmk-key-change-failure(319) | The total number of sessions disconnected due to primary master key change failure on X1 interface in PHS network. |
| SA-Rekeying-Failure(320) | The total number of sessions disconnected due to security associate rekeying failure. |
| Sess-sleep-mode-entry-timeout(321) | The total number of sessions disconnected due to session sleep mode entry timeout on PHS GW. |
| phsgw-non-anchor-prohibited(322) | The total number of sessions disconnected due to non-anchor PHS GW being prohibited. |
| asnpc-pc-relocation-failed(323) | The total number of sessions disconnected due to failure in relocation in ASN-PC service. |
| asnpc-pc-relocation(324) | The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service. |
| auth_policy_mismatch(325) | The total number of sessions disconnected due to mismatch in authentication policy. |
| ike/ipsec-sa-lifetime-expired(326) | The total number of sessions disconnected due to IKE/IPsec security associate lifetime timer expiration. |
| asnpc-del-ms-entry-recd(327) | The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller. |
| phspc-sleep-mode-timeout(328) | The total number of sessions disconnected due to sleep mode timeout by the PHS Paging Controller. |
| phspc-sleep-mode-exit(329) | The total number of sessions disconnected due to sleep mode exit by the PHS Paging Controller. |
| phspc-sleep-mode-entry-auth-failed(330) | The total number of sessions disconnected due to failed sleep mode entry authorization by the PHS Paging Controller. |
| phspc-ms-power-down-nwexit(331) | The total number of sessions disconnected due to ms power down network exit message received by the PHS Paging Controller. |

| Field | Description |
|--|--|
| phspc-x6-nwexit-recd(332) | The total number of PHS Paging Controller sessions disconnected due to network exit message received from X2 interface in PHS network. |
| invalid-nat-config(333) | The total number of sessions disconnected due to the following reasons: 1. SessMgr and ACSMgr are running in non-optimized mode. 2. An undefined NAT pool is configured for subscriber. NAT must be disabled if ACS is not running in optimized mode. |
| asngw-tid-entry-not-found(334) | The total number of sessions disconnected because the ASNGW TID entry was not found. |
| No-NAT-IP-Addr-for-subscriber(335) | The total number of sessions disconnected due to NAT IP address being unavailable during call setup for allocation to a subscriber. |
| excessive-phs-pd-flows-configured(336) | The total number of sessions disconnected due to configuration of excessive PHS pd flows. |
| phsgw-invalid-qos-configuration(337) | The total number of sessions disconnected due to invalid QoS configuration for subscriber in PHS network. |
| Interim-Update(338) | The total number of sessions disconnected due to Interim Update. |
| sgsn-inbound-attach-abort-radio-status-bad-lost(339) | The total number of SGSN sessions disconnected because the inbound attach requests aborted due to poor radio status or lost radio connections. |
| sgsn-inbound-irau-abort-radio-status-bad-lost(340) | The total number of SGSN sessions disconnected due to inbound IRAU requests aborting as the radio status was poor or the radio connection lost. |
| ike-keep-alive-failed(341) | The total number of sessions disconnected due to IKE keepalive failure. |
| sgsn-attach-abort-ms-suspend(342) | The total number of SGSN sessions disconnected due to attach requests aborting because MS was in suspend mode. |
| sgsn-inbound-irau-abort-ms-suspend(343) | The total number of SGSN sessions disconnected due to IRAU requests aborted when MS was in suspend mode. |
| duplicate-session-detected(344) | The total number of sessions disconnected due to detection of duplicate sessions for the same session id. |
| sgsn-xid-response-failure(345) | The total number of SGSN sessions disconnected due to XID response failure. |
| sgsn-nse-cleanup(346) | The total number of SGSN sessions disconnected due to record cleanup or reset on the network service entity (NSE). |

| Field | Description |
|--------------------------------------|--|
| sgsn-gtp-req-failure(347) | The total number of SGSN sessions disconnected due to failure of the GTPP request. |
| sgsn-imsi-mismatch(348) | The total number of SGSN sessions disconnected due to mismatches of the IMSIs. |
| sgsn-bvc-blocked(349) | The total number of SGSN sessions disconnected because the BSSGP Virtual Connection (BVC) was blocked. |
| sgsn-attach-on-inbound-irau(350) | The total number of SGSN sessions disconnected as the session was attached on inbound IRAU requests. |
| sgsn-attach-on-outbound-irau(351) | The total number of SGSN sessions disconnected while the session was attached on outbound IRAU requests. |
| sgsn-incorrect-state(352) | The total number of SGSN sessions disconnected due to incorrect state of network elements. |
| sgsn-t3350-expiry(353) | The total number of SGSN sessions disconnected due to expiry of the T-3350 timer. |
| sgsn-page-timer-expiry(354) | The total number of SGSN sessions disconnected due to expiry of the paging timer. |
| phsgw-tid-entry-not-found(355) | The total number of SGSN sessions disconnected due to local purging of PDP contexts. |
| sgsn-pdp-local-purge(357) | The total number of SGSN sessions disconnected due to local purging of PDP contexts. |
| sgsn-offload-phase2(360) | With Iu/Gb flex enabled, this is the total number of SGSN sessions disconnected when the subscribers has been forcefully cleared via phase2 offloading from one SGSN to another SGSN within the SGSN pool. |
| Remote-error-notification(362) | The total number of sessions disconnected due to remote error notification. |
| no-response(363) | The total number of sessions disconnected due to no response from any of the network entity. |
| PDG-Auth-failed(364) | The total number of sessions disconnected due to re-authorization failure at any stage. |
| mme-s1AP-send-failed(365) | The total number of sessions disconnected due to message sent on S1AP interface failed. |
| mme-egtpc-connection-failed(366) | The total number of sessions disconnected as connection between MME and eGTP service/node failed due to any reason. |
| mme-egtpc-create-session-failed(367) | The total number of sessions disconnected as session creation failed between MME and eGTP service/node. |

| Field | Description |
|-------------------------------------|--|
| mme-authentication-failure(368) | The total number of sessions disconnected as authentication procedure failed between MME and HSS. |
| mme-ue-detach(369) | The total number of sessions disconnected as UE detached explicitly. |
| mme-mme-detach(370) | The total number of sessions disconnected on serving MME due to detach procedure occurred between anchored MME and service MME. |
| mme-hss-detach(371) | The total number of sessions disconnected due to DETACH procedure started from HSS. |
| mme-pgw-detach(372) | The total number of sessions disconnected due to DETACH procedure started from P-GW. |
| mme-sub-validation-failure(373) | The total number of sessions disconnected as subscriber validation failed at MME or HSS during authentication procedure. |
| mme-hss-connection-failure(374) | The total number of sessions disconnected due to connection failure between MME and associated HSS during authentication procedure. |
| mme-hss-user-unknown(375) | The total number of sessions disconnected by MME service due to UNKNOWN USER response from HSS during authentication procedure. |
| dhcp-lease-mismatch-detected(376) | The total number of sessions disconnected due to mismatch in DHCP lease time mismatch. |
| nemo-link-layer-down(377) | The total number of disconnected sessions due to the NEMO (Network Mobility) link layer being down. |
| sgsn-offload-phase3(379) | With Iu/Gb flex enabled, this is the total number of SGSN sessions disconnected when the subscribers has been forcefully cleared via phase3 offloading from one SGSN to another SGSN within the SGSN pool. |
| mbms-bearer-service-disconnect(380) | The total number of sessions disconnected due to disconnect in MBMS bearer service. |
| disconnect-on-violation-odb(381) | The total number of sessions disconnected due to violation on Operator Determined Barring (ODB) of services. |
| disconn-on-violation-focs-odb(382) | The total number of sessions disconnected due to violation on Operator Determined Barring (ODB) of Free-of-Charge Service (FOCS). |
| CSCF-REG-Admin-disconnect(383) | The total number of CSCF sessions disconnected through CLI registration clearing by administrator. |
| CSCF-REG-User-disconnect(384) | The total number of CSCF sessions disconnected by UE with an explicit deregister message. |

| Field | Description |
|------------------------------------|---|
| CSCF-REG-Inactivity-timeout(385) | The total number of CSCF sessions disconnected due to registration expiry. |
| CSCF-REG-Network-disconnect(386) | The total number of CSCF sessions disconnected due to network-initiated deregistration. |
| CSCF-Call-Admin-disconnect(387) | The total number of CSCF sessions disconnected through CLI call clearing by administrator. |
| CSCF-Call-User-disconnect(388) | The total number of CSCF sessions disconnected by UE using BYE message. |
| CSCF-CALL-Local-disconnect(389) | The total number of CSCF sessions disconnected locally due to some processing failure, task death, recovery failure, etc. |
| CSCF-CALL-No-Resource(390) | The total number of CSCF sessions disconnected because locally due to congestion caused by max calline/flow usage from high cpu/memory utilization in sessmgr. |
| CSCF-CALL-No-Response(391) | The total number of CSCF sessions disconnected due to response timeout (SIP response code 408). |
| CSCF-CALL-Inactivity-timeout(392) | The total number of CSCF sessions disconnected due to session timer timeout |
| CSCF-CALL-Media-Auth-Failure(393) | The total number of CSCF sessions disconnected due to media authorization failure. |
| CSCF-REG-No-Resource(394) | The total number of CSCF sessions disconnected because register message is rejected due to congestion caused by max calline/flow usage from high cpu/memory utilization in sessmgr. |
| ms-unexpected-idle-mode-entry(395) | The total number of sessions disconnected while MS unexpectedly started the IDLE mode procedure and enters the Idle mode. |
| Re-Auth-failed(396) | The total number of sessions disconnected during re-authentication when MS started activation after coming out of idle mode. |
| sgsn-pdp-nse-cleanup(397) | The total number of SGSN sessions disconnected because the NSE configured in the GPRS service is removed and there are PDP contexts associated with the subscribers attached in this NSE. |
| sgsn-mm-ctxt-gtp-no-resource(398) | The total number of SGSN sessions disconnected because an SGTP service could not be assigned to an MM context. |
| unknown-apn(399) | The total number of sessions disconnected due to invalid and/or unknown APN name received from AAA or subscriber template. |
| gtpc-path-failure(400) | The total number of sessions disconnected due to failure of GTP-C interface path between two nodes. |
| gtpu-path-failure(401) | The total number of sessions disconnected due to failure of GTP-U interface path between two nodes. |

| Field | Description |
|-------------------------------------|--|
| actv-rejected-by-ggsn(402) | The total number of sessions disconnected due as session activation procedure, started by an MS which was in idle mode, was rejected by GGSN. |
| sgsn-pdp-gprs-camel-release(403) | The total number of PDP activation failures due to release from CAMEL. <i>This counter is visible but not yet fully supported.</i> |
| sgsn-check-imei-failure(404) | The total number of of Attaches / RAUs rejected due to failure in the IMEI checking (i.e. due either to black listing or to grey listing and an SGSN operator policy is configured with deny-grey-list). |
| sgsn-sndcp-init-deact(405) | The total number of PDP contexts deactivated upon receiving a cleanup indication from the SMDCP layer. |
| sgsn-pdp-inactivity-timeout(406) | The total number of subscribers detached or PDP context(s) deactivated due to subscriber inactivity during a configured (in the SGSN operator policy) time. |
| No-IPv6-address-for-subscriber(410) | The total number of disconnects due to No-IPv6-address-for-subscriber. |
| prefix-registration-failure(411) | The total number of disconnects due to prefix-registration-failure. |
| disconnect-from-policy-server(412) | The total number of sessions disconnected due to disconnect from policy server. |
| s6b-auth-failed (413) | The total number of subscriber sessions disconnected due to failure of authentication over S6b interface with HSS. This support is added for interoperability of GGSN with P-GW and HA. |
| gtpc-err-ind(414) | The total number of sessions disconnected due to a GTP control plane error indication message. |
| gtpu-err-ind(415) | The total number of sessions disconnected due to a GTP user plane error indication message. |
| invalid-pdn-type(416) | The total number of sessions disconnected due to an invalid PDN-type error. |
| aaa-auth-req-failed(417) | The total number of sessions disconnected due to a AAA authentication request failure. |
| apn-denied-no-subscription (418) | The total number of subscriber sessions disconnected due to denial of APN as requested APN was not subscribed to subscriber. |
| sgw-context-replacement(419) | The total number of sessions disconnected due to an S-GW context replacement. |

| Field | Description |
|------------------------------------|---|
| dup-static-ip-addr-req (420) | The total number of subscriber sessions disconnected due to new session request received with duplicate IP address at GGSN. This support is added for interoperability of GGSN with P-GW and HA. |
| apn-restrict-violation (421) | The total number of subscriber sessions disconnected due to violation of level of restriction to ensure controlled co-existence of the Primary PDP Contexts in APN. |
| invalid-wapn(422) | The total number of sessions disconnected due to invalid or no W-APN details received from the UE. |
| ttg-nsapi-allocation-failed(423) | The total number of TTG sessions disconnected due to an NSAPI (Network Service Access Point Identifier) allocation failure. |
| mandatory-gtp-ie-missing(424) | The total number of sessions disconnected due to the unavailability of a mandatory GTP Information-Element during PDP context creation. |
| aaa-unreachable(425) | The total number of sessions disconnected due to unreachable AAA server. |
| asngw-service-flow-deletion(426) | Sent in the Accounting-Stop message for the particular service flow when that service flow is deleted by the Network- or MS-initiated service flow detection procedure. |
| CT-PMIP-RRQ-NVSE-Value-Change(427) | he total number of disconnects resulting from a PMIP (Proxy-MIP) registration request (RRQ) returning an NVSE (Normal/Vendor organization Special Extension) value change [WiMAX]. |
| tcp-read-failed (428) | The total number of disconnected IP-CAN sessions due to a TCP read failure. |
| tcp-write-failed (429) | The total number of disconnected IP-CAN sessions due to a TCP write failure. |
| ssl-handshake-failed (430) | The total number of disconnected SSL ssessions due to a handshake failure. |
| ssl-renegotiate-failed (431) | The total number of disconnected SSL ssessions due to a renegotiation failure. |
| ssl-bad-message (432) | The total number of disconnected SSL ssessions due to corrupted messages. |
| ssl-alert-received (433) | The total number of disconnected SSL ssessions due to an alert. |
| ssl-disconnect (434) | The total number of SSL disconnections. |
| ssl-migration (435) | The total number of SSL migrations. |

| Field | Description |
|---------------------------------------|--|
| sgsn-ard-failure(436) | The total number of session disconnects due to ARD (access restriction data) subscription restriction received from the HLR. |
| sgsn-camel-release(437) | The total number of session disconnects experienced by the SGSN when Detach/Attach Rejects were due to explicit "Release GPRS" received from the CAMEL component GSM-SCF or due to failures during CAMEL handling. |
| sgsn-egtpc-connection-failed(438) | Replaced by <code>sgsn-egtpc-create-session-failed(439)</code> in Release 14.0. |
| sgsn-egtpc-create-session-failed(439) | Supported in Release 14.0 The total number of session disconnects occurring when the S4-SGSN is not able to establish a PDP context when the SGW returned a failure cause in "Create Session Response" or the SGW did not respond at all to "Create Session Request". Counter |
| sgsn-hss-detach(440) | Replaced by <code>sgsn-cancel-location-subs-withdrawn(230)</code> in Release 14.0. |
| sgsn-hss-connection-failure(441) | Replaced by <code>sgsn-glu-failure(236)</code> in Release 14.0 |
| sgsn-pgw-detach(442) | Not yet supported. |
| sgsn-s5-s8-no-support-for-apn(443) | Supported in Release 14.0. The total number of session disconnects resulting from the S4-SGSN's inability to establish a PDP context for an APN in the following scenario: <ol style="list-style-type: none">1. An EPS subscription is used for a subscriber.2. The SGSN tries to find an S5 / S8 address of the PGW for the requested APN.3. The DNS response does not contain an S5/S8 address.4. The PDP activation is rejected. |
| sgsn-no-rab-for-gbr-bearer(444) | Not yet supported. In development for future use. |

| Field | Description |
|------------------------------------|---|
| sgsn-sgw-selection-failure(445) | <p>Supported in Release 14.0.</p> <p>The total number of session disconnects resulting from the S4-SGSN's inability to establish a PDP context in the following scenario:</p> <ol style="list-style-type: none"> 1. Either EPS or GPRS subscription is used. 2. S4-SGSN chooses S4 interface for PDP activation because <ul style="list-style-type: none"> • The UE is EPC-capable. • EGTP service is configured. • Operator Policy does not override the core-nw-interface to Gn. 3. The SGSN successfully resolves P-GW address (S5/S8 address) for the APN requested. 4. The SGSN tries S-GW resolution. If the DNS response fails and no local S-GW is configured for the RAI, then the PDP activation is rejected with this disconnect reason. |
| sgsn-pgw-selection-failure(446) | <p>Supported in Release 14.0.</p> <p>The total number of sessions disconnected by the S4-enabled SGSN when the P-GW DNS resolution fails due to any cause other than the DNS response does not contain an S5/S8 address.</p> |
| wimax-hotlining-status-change(447) | The total number of disconnects resulting from a status change in the Hotlining-Capabilities sub-attribute in the WiMAX-Capabilities attribute. |
| ggsn-no-rsp-from-sgsn(448) | The total number of sessions disconnected on GGSN node due to no response received from SGSN for a request. |
| diameter-protocol-error(449) | The total number of sessions disconnected on IPCF node due to an error in Diameter protocol (such as, CCR-I parse failure). |
| diameter-request-timeout(450) | The total number of sessions disconnected on IPCF node due to Diameter (RAR/ASR) request timeout on IPCF node. |
| operator-policy(451) | The total number of session disconnected on IPCF node due to parameters configured by operator for PCC policy. |
| spr-connection-error(452) | The total number of sessions disconnected on IPCF node due to an error in connection between SSC and IPCF node or non-availability of SSC. |
| mipha-dup-wimax-session(453) | The total number of WiMAX session disconnects resulting from duplicate Mobile IP Home Agent (MIPHA) logins. |

| Field | Description |
|--|--|
| invalid-version-attr(454) | This disconnect reason is set, if there is mismatch of WiMAX-Release version supported by ASNGW and that supported by AAA. This statistic is incremented when there is a mismatch of WiMAX-Release version supported by ASNGW and that supported by AAA. AAA sends WiMAX release in Radius packet. This statistic is cumulative for all ASNGW services configured on the system. |
| sgsn-zone-code-failure(455) | The total number of session disconnects experienced by the SGSN due to verification failure during the zone-code checking procedure. |
| invalid-qci(456) | The total number of session disconnects resulting from the receipt of invalid QoS class identifiers (QCIs). This error is returned if an invalid QCI is used in certain operations such as create bearer, which expects a QCI. A QCI is deemed invalid if it is not a standard QCI (1-9) or the QCI is not defined in the QCI table associated with the service. |
| no_rules(457) | This session disconnect counter increases for eGCDR when the call is terminated because of the PCRF deleting a rulebase through RAR. |
| sgsn-rnc-no-dual-pdp-init-pdp-deact(458) | Indicates the number of times the SGSN has deactivated a PDP because the MS/UE has roamed into an area where the RNC does not support dual PDP types. Deactivation would have been done with cause code "reactivation required". |
| mme-init-ctxt-setup-failure(459) | The total number of session disconnects resulting from context setup failures in the ENodeB during EMM/ECM procedures. |
| mme-driver-initiated(460) | The total number of session disconnects resulting from the default value for mme-sessions. |
| mme-s1ap-connection-down(461) | The total number of session disconnects resulting from S1AP connection failures. |
| mme-s1ap-reset-recd(462) | The total number of session disconnects resulting from partial or full resets received for the S1 connection. |
| mme-s6a-response-timeout(463) | The total number of session disconnects resulting from requests to the HSS that timed out (AIR or ULR). |
| mme-s13-response-timeout(464) | The total number of session disconnects resulting from EIR query time outs. |
| mme-Illegal-equipment(465) | The total number of session disconnects resulting from EIR query failures. |
| mme-unexpected-attach(466) | The total number of session disconnects resulting from older sessions getting disconnected due to the UE executing an ATTACH procedure. |

| Field | Description |
|--------------------------------------|--|
| mme-sgw-selection-failure(467) | The total number of session disconnects resulting from failed selections of S-GWs for the UE's current location. |
| mme-pgw-selection-failure(468) | The total number of session disconnects resulting from failed selections of P-GWs for default APNs. |
| mme-reselection-to-sgsn(469) | The total number of session disconnects resulting from a context request from an SGSN relocated call to 3G. |
| mme-relocation-to-sgsn(470) | The total number of session disconnects resulting from calls transitioned to an SGSN using handover signaling. |
| mme-reselection-to-mme(471) | The total number of session disconnects resulting from a context request from an MME relocated call to a different MME. |
| mme-relocation-to-mme(472) | The total number of session disconnects resulting from calls transitioned to an MME using handover signaling. |
| mme-tau-attach-collision(473) | The total number of session disconnects resulting from processing a TAU request with a foreign GUTI that cleared an existing session on the MME. |
| mme-old-sgsn-resolution-failure(474) | The total number of session disconnects resulting from calls setup using a PTMSI that failed due to failure in resolution of the old SGSN context. |
| mme-old-mme-resolution-failure(475) | The total number of session disconnects resulting from calls setup using a foreign GUTI that failed due to a failure in resolution of the old MME context. |
| mme-reloc-ho-notify-timeout (476) | The total number of session disconnects resulting from a handover based session origination failure due to an ho-notify timeout. |
| mme-reloc-ho-req-ack-timeout(477) | The total number of session disconnects resulting from a handover based session origination failure due to an ho-request-ack timeout. |
| mme-create-session-timeout(478) | The total number of session disconnects resulting from a create session request to the S-GW that timed out. |
| mme-create-session-failure(479) | The total number of session disconnects resulting from a create session request to the S-GW that returned a failure response. |
| mme-s11-path-failure(480) | The total number of session disconnects resulting from a call cleared due to an S11 path failure. |
| mme-policy-no-ue-irat(481) | The total number of session disconnects resulting from a call cleared due to policy restrictions on inter-rat handovers. |
| mme-x2-handover-failed(482) | The total number of session disconnects resulting from a call cleared due to failures in x2 handovers. |
| mme-attach-restrict(483) | The total number of session disconnects resulting from an operator policy based attach restriction. |

| Field | Description |
|---|---|
| mme-regional-zone-code(484) | In StarOS 15.0 and earlier releases: The total number of session disconnects resulting from the UE being in a zone code where the UE is not allowed to roam. This information is also available from the following counter: mme-zone-code-validation-failed(492). |
| mme-reloc-to-non-3GPP(484) | In StarOS 16.0 and later releases: The total number of session disconnects resulting from outbound EUTRAN to Non-3GPP handovers. |
| mme-no-response-from-ue(485) | The total number of session disconnects resulting from the maximum retransmission of a NAS message during session setup. |
| mme-sgw-relocation-failed(486) | The total number of session disconnects resulting from an S-GW relocation procedure failing. |
| mme-implicit-detach(487) | The total number of session disconnects resulting from the UE being implicitly detached due to inactivity. |
| sgsn-detach-notify(488) | Replaced by sgsn-isr-mme-init-detach(505) in Release 14.0. |
| policy-initiated-release(489) in StarOS 12.1 and earlier releases | |
| emergency-inactivity-timeout (489) in StarOS 12.2 and later releases | The total number of sessions disconnected due to emergency inactivity timeout. The emergency session inactivity timeout is set on an APN configured as an emergency APN for VoLTE-based E911 support. |
| gy-result-code-system-failure (490) in StarOS 12.1 and earlier releases | The total number of sessions disconnected due to failure result codes received from the Online Charging Server that resulted in system failure on the GTP side. |
| policy-initiated-release(490) in StarOS 12.2 and later releases | The total number of times that a call disconnect occurs due to a Gx-initiated bearer release. For example, this disconnect reason may be used if there are any errors in the manner of the policy or rule configurations. |
| emergency-inactivity-timeout (491) in StarOS 12.1 and earlier releases | The total number of sessions disconnected due to emergency inactivity timeout. The emergency session inactivity timeout is set on an APN configured as an emergency APN for VoLTE-based E911 support. |
| gy-result-code-system-failure (491) in StarOS 12.2 and later releases | The total number of sessions disconnected due to failure result codes received from the Online Charging Server that resulted in system failure on the GTP side. |
| mme-zone-code-validation-failed(492) | The total number of session disconnects resulting from the UE being in a zone code where the UE is not allowed to roam. |

| Field | Description |
|--------------------------------|--|
| sgsn-pgw-init-deact(493) | Supported in Release 14.0. The total number of session disconnects resulting from an initial deactivation between the SGSN and the P-GW when the P-GW sends "Delete Bearer Request" to deactivate a PDP or a PDP bundle. |
| s6b-ip-validation-failed(494) | Not supported in releases 12.0 or 12.2 . Supported in release 14.0 and later. The total number of session disconnects resulting from an IP validation failure on the S6b (3GPP AAA) interface. |
| sgsn-failure-rsp-from-sgw(495) | The total number of session disconnects resulting from the SGSN receiving a failure response from the S-GW. This occurs in any of the following scenarios: <ul style="list-style-type: none"> • The UE has successfully attached and activated the PDP contexts through the S4 interface and then the UE does a RAU to a new RA. During this RAU, the SGSN will do S-GW selection for the new RA. If the SGSN selects a new S-GW for this RA and sends "Create Session Request" to the new S-GW to setup a tunnel. But the new S-GW does not respond or the responds with a failure cause. The SGSN deactivates the PDP with this disconnect cause. • In the case of a new-SGSN RAU without S-GW relocation, the new-SGSN sends "Modify Bearer Req" to inform the S-GW that the UE has moved to the new-SGSN but the SGSN does not receive any response from the S-GW. • During intra-SGSN RAU with a change in the PLMN but without a change in the S-GW. In this case, SGSN will send "Modify Bearer Req" to inform the S-GW of the change in PLMN ID but SGSN does not receive any response from the S-GW. • During intra-SGSN 3G-to-2G or 2G-to-3G inter-RAT RAU without an S-GW change. In this case, the SGSN sends "Modify Bearer Req" to inform the S-GW of the change in RAT type but the SGSN does not receive any response from the S-GW. |
| tcp-remote-close (496) | The total number of sessions disconnected due to a TCP FIN (finished sending) message received from the UE. |
| tcp-reset-received (497) | The total number of sessions disconnected due to a TCP RST (reset) message received from the UE. |
| tcp-socket-error (498) | The total number of sessions disconnected due to a socket error received from the trek stack at the access-side TCP socket connection between the UE and the TTG. |

| Field | Description |
|----------------------------------|--|
| ptmsi-signature-mismatch(499) | The number of times the SGSN was unable to validate the P-TMSI signature, present in the Attach Request, against the PTMSI-SIGNATURE stored in SGSN. The SGSN sent an Attach Reject to MS if it did not match. This occurs when the GPRS service is configured to reject Attaches with mismatching P-TMSI-signature. This configuration is used to prevent collision of 2 Attach procedures from 2 subscribers with the same P-TMSI and then quickly enforces an IMSI Attach. |
| camel-invalid-configuration(500) | The number of times the SGSN has encountered an invalid Customized Applications for Mobile network Enhanced Logic (CAMEL) configuration. This condition typically occurs when a subscriber moves from 3G service to 2G service or vice versa and the CAMEL service is associated only in the source service but not in the target service. In such cases, RAU requests are rejected with disconnect reason "camel-invalid-configuration". |
| 4Gto3G-context-replacement(501) | Supported in Release 14.0. The total number of times a PGW call has been cleared when a new call request came on GGSN and PGW already had a call with the same IMSI. ISR is enabled. |
| mme-isr-sgsn-init-detach(502) | Supported in Release 14.0. The total number of times an MME, with IRS enabled, deletes a subscriber to detach the UE after receiving an S3 Detach Notification from the SGSN with cause code "complete detach". |
| sgsn-isr-addl-ptmsi-rai(503) | The total number times the SGSN has disconnected a session because the SGSN has sent an additional P-TMSI Attach request during ISR. This cause is used to peg the clearing of stale contexts. This can occur in the following scenario: <ol style="list-style-type: none"> 1. The UE is registered with both the MME and the SGSN and ISR is active. 2. Due to one of the reasons mentioned in Annex J.6 of TS 23.401, ISR is deactivated at the UE but has not deactivated at either the SGSN or the MME which means the UE's last point of attachment at the time of ISR deactivation is the MME. 3. Now the UE does a RAU to the SGSN. The UE will send old-RAI mapped from the GUTI (since the ISR is deactivated and the UE's last point of attachment was the MME) and also an additional RAI / P-TMSI which is the P-TMSI/RAI given by the SGSN at the time of ISR activation in step 1. This additional P-TMSI / RAI helps the SGSN to locate the stale UE context and clean it up. (The SGSN received a RAU with an old-RAI mapped from the GUTI so the SGSN needs to build a fresh UE context by fetching information from the MME - "Context Req/Rsp/Ack".) |

| Field | Description |
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| sgsn-sgw-dbr-cause-isr-deact(504) | The number of times "Delete Bearer Requests" occurred between the SGSN and the S-GW due to ISR being deactivated. This occurs when the SGSN locally deactivate PDP contexts after receiving "Delete Bearer Requests" with cause "ISR Deactivation" from the S-GW. |
| sgsn-isr-mme-init-detach(505) | The number of times Init Detach occurred between the SGSN and the MME with ISR activated. This occurs when the SGSN receives "S3 Detach Notification" with cause "Complete Detach" from the MME. |
| mme-sgw-dbr-cause-isr-deact(506) | Supported in Release 14.0. The number of times Delete Bearer Requests occurred between MME and SGW due to ISR being deactivated. |
| sgsn-ptmsi-crunch(507) | The total number of sessions disconnected by the SGSN when there is a shortage of P-TMSIs which can occur when the number of possible subscribers per SessMgr has increased (with a PSC3) but the number of local NRI has not been increased in the configuration. |
| 3Gto4G-context-replacement(508) | Supported in Release 14.0. The total number of times a GGSN call has been cleared when a new call request came on PGW and GGSN already had a call with the same IMSI. Idle mode Signaling Reduction (ISR) is enabled. |
| sgsn-actv-reject-on-dns-failure(509) | Never used. Removed in Release 14.0. |
| mme-no-eps-bearers-activated(509) | Supported in Release 14.0. The number of times the MME has rejected a TAU Attach Request due to any of the following reasons: <ul style="list-style-type: none"> • EPS Context Status IE value = 0 (which implies no EPS bearers were active in UE). • The SGSN Context Response received by the MME did not have any PDP Contexts or the Response which included the PDP Contexts encountered basic decoding issues (like incorrectly encoded APN, etc.). |
| sgsn-cancel-loc-inital-attach(513) | Supported in Release 14.0. The number of times a subscriber disconnects due to CLR with "initial attach procedure" as the cancellation type. |
| Local-fallback-timeout(514) | The total number of times the call gets disconnected due to the local policy timeout when Gx is not reachable. |

| Field | Description |
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| sgsn-nrspca-actv-rej-by-sgsn(515) | The total number of times the network requested secondary PDP context activation (NRSPCA) procedure did not complete successfully for any reason other than the MS rejecting the procedure by sending a Request Secondary PDP Context Activation Reject message to the SGSN. |
| sgsn-nrspca-actv-rej-by-ms(516) | The total number of times the MS rejects the NRSPCA procedure by sending Request Secondary PDP Context Activation Reject message to the SGSN. |
| ims-authorization-config-delete(517) | The total number of times the sessions are disconnected due to IMS Authorization configuration being deleted. |
| sgsn-no-ptmsi-signature(518) | The total number of times the SGSN disconnects a subscriber (from an MME) because no PTMSI-signature was included in the RAU Request. |
| ePDG-dns-server-not-reachable(519) | The total number of disconnected sessions due to DNS server not reachable. |
| ePDG-dns-no-resource-records(520) | The total number of disconnected sessions when no valid record is fetched from DNS server. |
| ePDG-dns-no-service-params(521) | The total number of disconnected sessions when the fetched service parameters from DNS record does not match the configured protocol (GTP/PMIPv6). |
| pgw-sel-dns-server-nt-reachable(519) Release 15.0+ | The number of sessions disconnected by the P-GW when its selected DNS server was not reachable. |
| pgw-sel-dns-no-resource-records(520) Release 15.0+ | The number of sessions disconnected by the P-GW when its selected DNS server had no resource records. |
| pgw-sel-dns-no-service-params(521) Release 15.0+ | The number of sessions disconnected by the P-GW when its selected DNS server had no service parameters. |
| ePDG-Auth-failed(522) | The total number of times ePDG authentication failed. Note Invalid-AAA-attr-in-auth-response is incremented and as of now ePDG-Auth-failed is not used. |
| ePDG-pgw-sel-failure-initial(523) | The total number of disconnected sessions due to PGW selection failure in initial state. |
| ePDG-pgw-sel-failure-handoff(524) | The total number of disconnected sessions due to PGW selection failure in handoff state. |
| sgsn-ho-sgw-reloc-collision(525) | The total number of Relocation Collisions encountered during an SGSN handover to S-GW. |

| Field | Description |
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| ePDG-dbr-from-pgw(526) | The total number of disconnected sessions due to Delete Bearer Request GTP message coming from PGW. |
| ePDG-gtpc-abort-session(527) | The total number of disconnected sessions due to GTP control plane path failure. |
| ePDG-gtpu-abort-session(528) | The total number of disconnected sessions due to GTP user plane path failure. |
| ePDG-gtpu-error-ind(529) | The total number of disconnected sessions due to error indication message on GTP user plane. |
| ePDG-pgw-not-reachable(530) | The total number of disconnected sessions due to PGW being down. |
| ePDG-reject-from-pgw(531) | The total number of disconnected sessions due to PGW rejecting the create session request. |
| IPSG-session-replacement(532) | The total number of times existing IPSG sessions have been replaced by new sessions. IPSG session replacement must be enabled. |
| ePDG-release-due-to-handoff(533) | The total number of disconnected sessions when ePDG gets a Delete Bearer Request from PGW due to hand-off. |
| mme-foreign-plmn-guti-rejected(534) | The total number of sessions rejected where the session contained a foreign GUTI and where the MME is configured to reject such foreign GUTIs as defined in the Foreign PLMN GUTI Management Database (foreign-plmn-guti-mgmt-db) configured in the lte-policy mode and which has been associated with the MME service. |
| sgsn-dsd-allepwithdrawn(535) | |
| NAT-Pool-BusyOut-Or-Pend-Delete(536) | The number of sessions disconnected because the NAT pool was busied-out or in Pending Delete state. |
| Invalid-APN(537) | The number of sessions disconnected because an ePDG rejected the incoming new call due to an APN syntax error (invalid length). |
| srvcc-ps-to-cs-handover(538) | The number of sessions disconnected because bearers were deactivated as a part of an SRVCC PS-to-CS handover. |
| henbgw-mme-s1ap-reset-recd(539) | The number of sessions disconnected by the HeNBGW when an S1 Application Protocol (S1AP) RESET was received from the MME. |
| henbgw-henb-s1ap-reset-recd(540) | The number of sessions disconnected by the HeNBGW when an S1AP RESET was received from the HeNB. |
| henbgw-mme-sctp-conn-down(541) | The number of sessions disconnected by the HeNBGW when an SCTP Connection Down was received from the MME. |

| Field | Description |
|---------------------------------------|---|
| henbgw-henb-sctp-conn-down(542) | The number of sessions disconnected by the HeNBGW when an SCTP Connection Down was received from the HeNB. |
| henbgw-handoff-complete(543) | The number of sessions disconnected by the HeNBGW when a handoff was completed. |
| henbgw-handover-failed(544) | The number of sessions disconnected by the HeNBGW when a handoff failed. |
| henbgw-mme-error-indication(545) | The number of sessions disconnected by the HeNBGW when an MME error indication was received. |
| henbgw-henb-error-indication(546) | The number of sessions disconnected by the HeNBGW when an HeNB error indication was received. |
| henbgw-henb-initiated-release(547) | The number of sessions disconnected by the HeNBGW due to an HeNB initiated release. |
| henbgw-mme-initiated-release(548) | The number of sessions disconnected by the HeNBGW due to an MME initiated release. |
| henbgw-duplicate-session(549) | The number of sessions disconnected by the HeNBGW because of duplicate sessions. |
| Transport-mismatch-with-PGW(550) | The number of sessions disconnected by the ePDG due to a DNS server IPv4-IPv6 mismatch for the P-GW IP address. |
| icsr-ipsec-chkpt-failed(551) | The number of sessions disconnected due IPSec checkpoint failure in ICSR setup. |
| sgsn-dbr-cause-isr-deact-detach(552) | The number of times subscribers are detached from the SGSN as a result of Delete Bearer Request messages being received from the SGW which causes Idle-mode Signaling Reduction (ISR) deactivation for ISR-activated subscribers. |
| unexpected-scenario(553) | The number of times that an unexpected call processing scenario has been encountered. This scenario may have caused an assertion failure with an associated core dump. |
| icsr-delete-standby(554) | The number of times that a session was deleted on the standby ICSR chassis when a call clear trigger is received from the active chassis or the call is removed for re-establishment when a full checkpoint was received |
| ePDG-local-pgw-resolution-failed(555) | The number of times that local resolution of an ePDG session failed due to a configuration error. This scenario occurs if PGW resolution is enabled, the existing DNS/AAA server PGW resolution mechanism failed, and no disconnect reason has been already set from a another mechanism. |

| Field | Description |
|--------------------------------------|--|
| sgsn-iovui-negotiation-failure(556) | If 'reject' is the configured option for random-value-in-iov-ui negotiation-failure-action under GPRS service configuration, then the SGSN uses this disconnect-reason to track the number of calls cleared due to the default behavior, which rejects any call when random IOV-UI negotiation fails. |
| henbgw-gw2henb-inv-mmeues1apid(557) | The number of times an HeNB gateway to HeNB session disconnected due to an invalid UE S1 Application Protocol (S1AP) ID. |
| henbgw-gw2mme-inv-mmeues1apid(558) | The number of times an HeNB gateway to MME session disconnected due to an invalid UE S1AP ID. |
| henbgw-henb-sess-henb-conn-down(559) | The number of times an HeNB gateway to HeNB session disconnected because the HeNB connection went down. |
| henbgw-nw-path-unavailable(560) | The number of HeNB gateway session disconnects because a network path was unavailable. |
| pgw-transaction-timeout(561) | The number of session disconnects due to a P-GW transaction timeout. |
| samog-multi-dev-pgw-sel-failure(562) | The number of times a SaMOG multiple device session disconnect has occurred due a P-GW selection failure. |
| samog-multi-dev-demux-failure(563) | The number of times a SaMOG multiple device session disconnect has occurred due a demux failure. |
| mme-pgw-restarted(564) | The number of times a session disconnect has occurred due to a P-GW Restart Notification (PRN). |
| samog-session-replacement(565) | The number of times a SaMOG session was replaced. |
| authorization-failed(566) | The number of times a SaMOG session was disconnected because authorization failed. |
| mm-apn-congestion-control(567) | The number of times an SGSN Attach or Inter SGSN RAU call was dropped due to APN congestion control. |
| samog-pgw-init-detach(568) | The number of times a SaMOG session was disconnected due to PGW initial detach failure. |
| samog-ggsn-init-detach(569) | The number of times a SaMOG session was disconnected due to GGSN initial detach failure. |
| samog-pgw-rejected(570) | The number of times a SaMOG session was disconnected due to PGW rejection. |
| samog-ggsn-rejected(571) | The number of times a SaMOG session was disconnected due to GGSN rejection. |
| samog-pgw-no-response(572) | The number of times a SaMOG session was disconnected due to no response from the PGW. |

| Field | Description |
|------------------------------------|--|
| samog-ggsn-no-response(573) | The number of times a SaMOG session was disconnected due to no response from the GGSN. |
| samog-gtpc-path-failure(574) | The number of times a SaMOG session was disconnected due to GTPC path failure. |
| samog-gtpu-path-failure(575) | The number of times a SaMOG session was disconnected due to GTPU path failure. |
| samog-gtpu-err-ind(576) | The number of times a SaMOG session was disconnected due to a GTPU error indication. |
| samog-mandatory-ie-missing(577) | The number of times a SaMOG session was disconnected due to a missing mandatory information element. |
| samog-mandatory-ie-incorrect(578) | The number of times a SaMOG session was disconnected because of an incorrect mandatory information element. |
| samog-ip-alloc-failed(579) | The number of times a SaMOG session was disconnected because of an IP address allocation failure. |
| samog-default-gw-not-found(580) | The number of times a SaMOG session was disconnected because the default gateway was not found. |
| samog-dns-unreachable(581) | The number of times a SaMOG session was disconnected because the DNS server was unreachable. |
| samog-dns-no-resource-records(582) | The number of times a SaMOG session was disconnected because there were no DNS resource records. |
| samog-dns-no-service-params(583) | The number of times a SaMOG session was disconnected because of DNS no-service parameters. |
| samog-internal-error(584) | The number of times a SaMOG session was disconnected because of an internal error. |
| handoff-pcf-restriction(585) | This disconnect reason is incremented for the case when handoffs happen from restricted to unrestricted PCF, or conversely from unrestricted PCF to restricted PCF, or handoffs between restricted PCFs. |
| ue-ctxt-normal-del-ntsr-ddn(587) | The number of UE contexts that were created to handle Network Triggered Service Restoration (NTSR) DDNs and are destroyed when the UE re-attaches. |
| session-auto-delete(588) | This disconnect reason is used to indicate the percentage of the total number of GGSN, P-GW, S-GW, SAEGW or ePDG sessions that have been auto deleted. |
| mme-qos-pgw-upgrade-reject(589) | The number of sessions disconnected when a QoS upgrade by P-GW is rejected by the MME during initial attach. |

| Field | Description |
|----------------------------|---|
| path-failure-s5(590) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S5 GTPC path failure. |
| path-failure-s11(591) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S11 GTPC path failure. |
| path-failure-s4(592) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S4 GTPC path failure. |
| gtpu-path-failure-s5u(593) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S5u GTPU path failure. |
| gtpu-path-failure-s1u(594) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S1u GTPU path failure. |
| gtpu-path-failure-s4u(595) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S4u GTPU path failure. |
| gtpu-path-failure-s12(596) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S12 GTPU path failure. |
| gtpu-err-ind-s5u(597) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S5u GTPU error indication. |
| gtpu-err-ind-s1u(598) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S1u GTPU error indication. |
| gtpu-err-ind-s4u(599) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S4u GTPU error indication. |
| gtpu-err-ind-s12(600) | Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S12 GTPU error indication. |

| Field | Description |
|--------------------------------------|---|
| diameter-network-too-busy(601) | Supported in release 18 and later releases. The number of ePDG sessions disconnected due to a network too busy indication. |
| diameter-network-failure(602) | Supported in release 18 and later releases. A temporary network failure has prevented establishing a Diameter session. |
| diameter-roaming-not-allowed(603) | Supported in release 18 and later releases. Total number of times a session is disconnected when the user is not allowed to roam in the visited network. |
| diameter-rat-disallowed(604) | Supported in release 18 and later releases. Sent by the HSS to indicate the RAT type the UE is using is not allowed for the IMSI. |
| diameter-no-subscription(605) | Supported in release 18 and later releases. Sent by the 3GPP AAA Server to indicate that the requested APN is not included in the user's profile, and therefore is not authorized for that user. |
| pcc-data-mismatch(606) | Supported in release 18 and later releases. The number of times a session has been disconnected due to a Policy and Charging Control (PCC) Packet Control Function (PCF) mismatch. |
| mme-embms-call-setup-timeout(607) | Supported in release 18 and later releases. Triggered when an eMBMS call setup has timed out. |
| mme-embms-normal-disconnect(608) | Supported in release 18 and later releases. Triggered by a normal eMBMS call disconnect. |
| mme-embms-sctp-down(609) | Supported in release 18 and later releases. Triggered when an eMBMS call experiences a Stream Control Transmission Protocol (SCTP) failure. |
| disconnect-from-charging-server(610) | Supported in release 18 and later releases. The number of times a call is terminated due to a Gy server being down. |
| disconnect-irat-fail-hi-missing(611) | Supported in release 18 and later releases. The number of times a call is terminated due to HI=1 is not being received (Mandatory id) during a WiFi to LTE handoff. |

| Field | Description |
|--------------------------------------|--|
| apn-not-supported-in-plmn-rat(612) | Not yet supported. In development for future use. The requested APN is not supported in current RAT and PLMN combination (cause code 66). |
| ue-pcscf-reselect-not-supported(613) | Supported in release 18 and later releases. If the UE does not support P-CSCF Reselection (PCO based optional extension as per Rel 12, 3GPP 23.380 section 5.4.3), the P-GW initiates a DBReq with cause Reactivation Requested on receiving an MBReq with PCRI (P-CSCF Restoration Indication). The call is then torn down. |
| newer-session-detected(614) | The total number of times a session is disconnected when Diameter Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199) is received in Assume Positive mode. On receiving this result code, the Diameter application does not retry to a secondary AAA server. This result code is used to maintain session uniqueness and detect stale message requests from ePDG/MME. |
| mme-guti_realloc_failed-detach(615) | MME will detach the UE after 10 consecutive unsuccessful GUTI Reallocation attempts with this disconnect reason. |
| mme-pcscf-rest-detach(616) | The MME detaches the subscribers due to HSS-based P-CSCF Restoration. The restoration method for P-CSCF Restoration in this scenario is PDN Deactivate. The MME performs a PDN disconnect procedure to deactivate the PDN with cause "reactivation requested". All subscriber PDNs are restored during P-CSCF Restoration. |
| Reject-ho-old-tun-path-failure(617) | Supported in release 18 and later releases. A tunnel path failure occurred during an LTE/Wi-Fi handoff. |
| gx-vapn-selection-failed(618) | The number of times a P-GW/GGSN/SAEGW session was disconnected due to validation failure of virtual APN received from PCRF. This disconnect reason is associated with Gx based Virtual APN Selection feature. Note that this feature is license dependent. For more information, contact your Cisco account representative. |
| dup-static-ipv6-addr-req(619) | This disconnect reason is incremented when the existing PDN gets gracefully aborted due to a duplicate IPv6 address request received from new PDN. The existing call gets aborted only when the CLI "newcall duplicate-subscriber-requested-v6-address accept" is configured under GGSN/PGW service. |
| mip-path-failure(620) | This disconnect reason will be incremented when the peer is not reachable or when the peer restarts and sends new restart counter. |

| Field | Description |
|----------------------------------|--|
| apn-congestion(621) | This disconnect reason will be incremented when an incoming call is identified as Low Access Priority Indicator (LAPI), and PGW is in Overload state and Backoff timer is configured and the call is rejected with cause "APN congestion". |
| ue-redirected(622) | Total number of sessions disconnected due to UE redirection. |
| ePDG-s2b-access-denied(623) | Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type "access denied". |
| ePDG-s2b-network-failure(624) | Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type "network failure". |
| ePDG-s2b-msg-failure(625) | Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type "message failure". |
| ePDG-s2b-rat-disallowed(626) | Total number of sessions disconnected on ePDG due to s2b cause code "RAT disallowed" which is mapped to private IKEv2 notify payload type "RAT Disallowed". |
| ePDG-roaming-mandatory(627) | Total the number of sessions disconnected due to DNS failure when roaming is mandatory. |
| Gtpv2-context-not-found(628) | Total the number of sessions disconnected due to GTP cause code "Context Not Found". |
| SaMOG-access-switch-timeout(629) | Increments when the access switch from PMIPv6 access-type to EoGRE access-type is not completed. |
| Decrypt-fail-count-exceeded(630) | Total number of sessions disconnected due to decryption failure count exceeded. |
| emergency-idle-timeout(631) | Total number of emergency sessions disconnected due to idle session timeout. |
| gtpu-path-failure-s11u(632) | Supported in release 21.3 and later releases. The number of times a SGW session has been disconnected due to GTPU echo failure on s11u interface. |
| gtpu-err-ind-s11u(633) | Supported in release 21.3 and later releases. The number of times a SGW session has been disconnected due to Error Indication on s11u interface. |
| epdg-invalid-imei(661) | The total number of sessions disconnected due to Invalid IMEI received from the UE. |

show session progress



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 501: show session progress Command Output Descriptions

| Field | Description |
|--|---|
| In-progress calls | The number of calls that are currently in progress (active, dormant, being set up, or being disconnected) and being processed by either the system (if no keywords were used), a specific PDSN service (if the pdsn-service keyword was used), or a specific PCF (if the pcf keyword was used). |
| In-progress active calls | The total number of active sessions. |
| In-progress dormant calls | The total number of dormant sessions. NOTE: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| In-progress always-on calls | The number of calls that have always on enabled. |
| In-progress calls @ ARRIVED state | The total number of sessions that are at the onset of the registration process. |
| In-progress calls @ CSCF-CALL-ARRIVED state | The total number of Call Session Control Function (CSCF) sessions that are at the onset of the registration process. |
| In-progress calls @ CSCF-REGISTERING state | Total number of CSCF sessions which are in registration processing state. |
| In-progress calls @ CSCF-REGISTERED state | Total number of CSCF sessions which are in registered state. |
| In-progress calls @ LCP-NEG state | The total number of sessions that are in the Link Control Protocol (LCP) negotiation phase of the registration process. |
| In-progress calls @ LCP-UP state | The total number of sessions that have just completed the Link Control Protocol (LCP) negotiation phase of the registration process. |
| In-progress calls @ AUTHENTICATING state | The total number of sessions that are in the process of being authenticated. |
| In-progress calls @ BCMCS SERVICE AUTHENTICATING state | The total number of BCMCS sessions that are in the process of being authenticated. |

| Field | Description |
|--|--|
| In-progress calls @ AUTHENTICATED state | The total number of sessions that have completed the authentication phase with AAA but the session is not yet established. |
| In-progress calls @ PDG AUTHORIZING state | The total number of Packet Data Gateway (PDG) calls in the process of being authorized. |
| In-progress calls @ PDG AUTHORIZED state | The total number of PDG calls that have been authorized. |
| In-progress calls @ IMS AUTHORIZING state | The total number of IP Multimedia Subsystem (IMS) calls in the process of being authorized. |
| In-progress calls @ IMS AUTHORIZED state | The total number of IMS calls that have been authorized. |
| In-progress calls @ MBMS UE AUTHORIZING state | The total number of Multimedia Broadcast Multicast Services (MBMS) sessions currently in User Equipment (UE) authorization state. |
| In-progress calls @ MBMS BEARER AUTHORIZING state | The total number of MBMS sessions currently in bearer authorization state. |
| In-progress calls @ DHCP PENDING state | The total number of Dynamic Host Configuration Protocol (DHCP) calls that are currently in pending state. |
| In-progress calls @ L2TP-LAC CONNECTING state | The number of calls that have an L2TP tunnel in the process of being brought up. |
| In-progress calls @ MBMS BEARER CONNECTING state | The total number of MBMS calls in the bearer connecting state. |
| In-progress calls @ CSCF-CALL-CONNECTING state | The total number of CSCF calls in the call connecting state. |
| In-progress calls @ IPCP-UP state | The total number of sessions that have just completed the Internet Protocol Control Protocol (IPCP) phase of the registration process. |
| In-progress calls @ NON-ANCHOR CONNECTED state | Indicates the total number of WiMAX sessions being processed by this Session Manager instance that are currently connected in non-anchor mode. |
| In-progress calls @ SIMPLE IPv4 CONNECTED state | The total number of simple IPv4 data sessions that are currently connected. |
| In-progress calls @ SIMPLE IPv6 CONNECTED state | The total number of simple IPv6 data sessions that are currently connected. |
| In-progress calls @ SIMPLE-IPv4+IPv6 CONNECTED state | The total number of simple IPv4/IPv6 data sessions that are currently connected. |
| In-progress calls @ MOBILE-IPv4 CONNECTED state | The total number of Mobile IPv4 (MIP) data sessions that are currently connected. |
| In-progress calls @ MOBILE-IPv6 CONNECTED state | Total number of Proxy Mobile IPv6 (MIPv6) sessions currently established. |

| Field | Description |
|--|--|
| In-progress calls @ GTP CONNECTING state | Total number of GTPv2 sessions in connecting state which are awaiting Create Session Response message in reply to Create Session Request already sent. |
| In-progress calls @ GTP CONNECTED state | Total number of GTPv2 sessions currently established. |
| In-progress calls @ PROXY-MOBILE-IP CONNECTING state | Total number of Proxy Mobile IPv6 sessions in connecting state and are waiting for PBA in reply to PBU already sent. |
| In-progress calls @ PROXY-MOBILE-IP CONNECTED state | The total number of Proxy Mobile IP data sessions that are currently connected. |
| In-progress calls @ EPDG RE-AUTHORIZING state | the total number of Evolved Packet Data Gateway (ePDG) calls that are re-authorizing. |
| In-progress calls @ HA-IPSEC CONNECTED state | The number of calls that have negotiated IP Security. |
| In-progress calls @ L2TP-LAC CONNECTED state | The number of calls that are passing data through an L2TP tunnel. |
| In-progress calls @ HNBGW CONNECTED state | The number of UMTS-Femto calls connected to HNB-GW. |
| In-progress calls @ PDP-TYPE-PPP CONNECTED state | The total number of PDP contexts of type PPP (Point to Point Protocol) that are currently connected. This field applies to GGSN only. |
| In-progress calls @ IPSG CONNECTED state | The total number of IP Services Gateway (IPSG) sessions currently connected. |
| In-progress calls @ BCMCS CONNECTED state | The total number of BCMCS sessions currently connected. |
| In-progress calls @ PCC CONNECTED state | The total number of IP-Connectivity Access Network (IP-CAN) sessions currently in connected state. |
| In-progress calls @ MBMS UE CONNECTED state | The total number of MBMS sessions currently in UE connected state. |
| In-progress calls @ MBMS BEARER CONNECTED state | The total number of MBMS sessions currently in bearer connected state. |
| In-progress calls @ ASNPC CONNECTED state | Indicates the number of ASN Paging Controller calls that are currently connected. |
| In-progress calls @ CSCF-CALL-CONNECTING state | Total number of CSCF sessions which are in call connecting state (waiting for ACK). |
| In-progress calls @ CSCF-CALL-CONNECTED state | Total number of CSCF sessions which are in call connected state. |
| In-progress calls @ CSCF-CALL-DISCONNECTING state | Total number of CSCF sessions which are in call disconnecting state (such as, processing BYE, waiting for BYE response, etc.). |
| In-progress calls @ MME ATTACHED state | Indicates the number of MME subscriber session currently attached. |

| Field | Description |
|---|--|
| In-progress calls @ HENBGW CONNECTED state | The total number of Home evolved Node B Gateway (HENBGW) calls in the connected state. |
| In-progress calls @ CSCF-CALL-DISCONNECTING state | Total number of CSCF sessions which are disconnecting. |
| In-progress calls @ DISCONNECTING state | The total number of sessions that are in the process of disconnecting. |

show session recovery status verbose

Table 502: show session recovery status verbose Output Descriptions

| Field | Description |
|--------------------|---|
| Last Status Update | The duration from the last time the Resource Manager did a health check on the session managers. This is informational info only, and does not reflect the last time a subscriber was checkpointed. |
| cpu | This indicates the card and slot number of the CPU listed. |
| state | Indicates the state of the specified CPU. This is either Active or Standby. |
| sessmgr | This lists the number of Session Managers in the active and standby state on the specified CPU. |
| aaamgr | Indicates the number of AAA managers in the active and standby state on the specified CPU. |
| demux active | Indicates the number of demux managers on the CPU. |

| Field | Description |
|--------|---|
| status | <p>This indicates the session recovery state for the specified CPU. This can be one of the following values:</p> <ul style="list-style-type: none"> • Good (Demux) • Demux With Non-Demux • Non-Demux With Demux • Pair on Processing Cards • SESSMGR Not Ready • Missing AAAMGR • No Standby • Good • SESSMGR Not Ready • Too Few Standby • Good • Unknown |

show session subsystem debug-info

Table 503: show session subsystem debug-info Output Descriptions

| Field | Description |
|---|--|
| USF | |
| No of packet drops on sessmgr | Indicates number of packet drops on Session Manager. |
| Peer Salvation Stats | |
| No of peer salvation requests received on sessmgr | Indicates the number of peer salvation requests received on the Session Manager. |
| No of peer salvaged on sessmgr | Indicates the number of peers salvaged on the Session Manager. |
| 1 AAA Managers | |
| 10 Total aaa requests | Indicates the number of AAA requests. The total number is 10. |
| 2 Total aaa auth requests | Indicates the number of AAA authorization requests. The total number is 2. |
| 0 Total aaa auth probes | Indicates the number of AAA authorization probes. The total number is 0. |

show session subsystem facility a11mgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and A11 Manager (A11Mgr) task itself (not from the perspective of subscribers).

Table 504: show session subsystem facility a11mgr Command Output Descriptions

| Field | Description |
|---------------------------|--|
| A11Mgr | The A11 Manager task instance number. Since multiple A11 Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | Indicates the total number of sessions received by this A11 Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this A11 Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this A11 Manager instance. |
| Total dereg reply sent | Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this A11 Manager instance. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this A11 Manager instance. |
| Total active services | The total number of PDSN services that are currently facilitating subscriber sessions. |

show session subsystem facility aaamgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and AAA Manager (AAAMgr) task itself (not from the subscriber perspective).

Table 505: show session subsystem facility aaamgr all Command Output Descriptions

| Field | Description |
|-------------|--|
| AAA Manager | The AAA Manager task instance number. Since multiple AAA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |

| Field | Description |
|---------------------------------|--|
| Total aaa requests | The total number of AAA requests received by this AAAMgr instance for processing. |
| Current aaa requests | The number of AAA requests that this AAAMgr instance is currently processing. |
| Total aaa auth requests | The total number of AAA authentication requests that were received by this AAAMgr instance. |
| Current aaa auth requests | The number of AAA authentication requests that this AAAMgr instance is currently processing. |
| Total aaa auth probes | The total number of Authorization Probes that this AAAMgr instance has initiated. |
| Current aaa auth probes | The number of Authorization Probe requests that this AAAMgr instance is currently processing. |
| Total aaa auth keepalive | The total number of AAA authentication keepalive requests that were sent by this AAAMgr instance. |
| Current aaa auth keepalive | The number of AAA authentication keepalive requests that this AAAMgr instance is currently processing. |
| Total aaa acct requests | The total number of AAA accounting requests that were received by this AAAMgr instance. |
| Current aaa acct requests | The number of AAA accounting requests that this AAAMgr instance is currently processing. |
| Total aaa acct keepalive | The total number of AAA accounting keepalive requests that were sent by this AAAMgr instance. |
| Current aaa acct keepalive | The number of AAA accounting keepalive requests that this AAAMgr instance is currently processing. |
| Total aaa auth success | The total number of successful AAA authentications facilitated by this AAAMgr instance. |
| Total aaa no-auth null-username | The total number of AAA authentication requests dropped because of a null user name, or because there is no RADIUS null-username configured. |
| Total aaa auth failure | The total number of failed AAA authentications facilitated by this AAAMgr instance. |
| Total aaa auth purged | The total number of AAA authentication requests received by this AAAMgr instance that failed to get a response from the AAA server. |
| Total aaa auth cancelled | The total number of canceled AAA authentication requests facilitated by this AAAMgr instance. |

| Field | Description |
|---------------------------------------|--|
| Total auth keepalive success | The total number of successful authentication keepalives facilitated by this AAAMgr instance. |
| Total auth keepalive failure | The total number of failed authentication keepalives facilitated by this AAAMgr instance. |
| Total auth keepalive purged | The total number of authentication keepalive requests received by this AAAMgr instance that failed to get a response from the AAA server. |
| Total aaa auth DMU challenged | The total number of AAA authentication requests that were challenged for Dynamic Mobile Keying update. |
| aaa request (used/max) | The total number of AAA requests used and the maximum allowed for this AAAMgr instance. |
| Total Diameter auth requests | The total number of AAA authentication requests of the type Diameter authentication protocol facilitated by this AAAMgr instance. |
| Current Diameter auth requests | The number of AAA authentication requests of the type Diameter authentication protocol currently being processed by this AAAMgr instance. |
| Total Diameter auth requests retried | The total number of AAA authentication requests of the type Diameter authentication protocol that this AAAMgr instance retried. Retries occur when the AAAMgr instance does not receive a response from the AAA server to an initial request. The AAAMgr instance retries a request triggered by a timeout value configured under the AAA group. |
| Total Diameter auth requests dropped | The total number of AAA authentication requests of the type Diameter authentication protocol dropped by this AAAMgr instance due to the AAA server being unavailable or the system being out of memory. |
| Total radius auth requests | The total number of RADIUS authentication requests received by this AAAMgr instance. |
| Current radius auth requests | The number of RADIUS authentication requests currently being processed by this AAAMgr instance. |
| Total radius auth requests retried | The total number of RADIUS authentication requests processed by this AAAMgr instance that were retried. |
| Total radius auth responses dropped | The total number of RADIUS authentication responses dropped by the AAAMgr instance. |
| Total radius malformed auth responses | The total number of RADIUS authentication responses received with multiple rulebase attributes. |

| Field | Description |
|--|--|
| Total local auth requests | The total number of authentication requests received by this AAAMgr instance for locally configured subscribers. |
| Current local auth requests | The number of authentication requests currently being processed by this AAAMgr instance for locally configured subscribers. |
| Total pseudo auth requests | The total number of AAA requests for user profiles received by this AAAMgr instance. |
| Current pseudo auth requests | The number of current pending AAA requests for user profiles in this AAAMgr instance. |
| Total null-username auth requests (rejected) | The total number of AAA requests for un-attempted user profiles received by this AAAMgr instance. |
| Total aaa acct completed | The total number of AAA accounting requests received by this AAAMgr instance that were delivered successfully to the AAA server. |
| Total aaa acct purged | The total number of AAA accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded. |
| Total acct keepalive success | The total number of successful accounting keepalives facilitated by this AAAMgr instance. |
| Total acct keepalive timeout | The total number of failed accounting keepalives facilitated by this AAAMgr instance. |
| Total acct keepalive purged | The total number of accounting keepalive requests received by this AAAMgr instance that failed to get a response from the AAA server. |
| Total aaa acct cancelled | The total number of AAA accounting requests received by this AAAMgr instance that were cancelled. |
| Total Diameter acct requests | The total number of AAA accounting requests of the type Diameter accounting protocol facilitated by this AAAMgr instance. This includes active and deleted requests. |
| Current Diameter acct requests | The number of AAA accounting requests of the type Diameter accounting protocol currently being processed by this AAAMgr instance. |
| Total Diameter acct requests retried | The total number of AAA accounting requests of the type Diameter accounting protocol that this AAAMgr instance retried. Retries occur when the AAAMgr instance does not receive a response from the AAA server to an initial request. The AAAMgr instance retries a request triggered by a timeout value configured under the AAA group. |

| Field | Description |
|---------------------------------------|--|
| Total diameter acct requests dropped | The total number of dropped AAA accounting requests of the type Diameter accounting protocol. |
| Total diameter acct responses dropped | The total number of dropped AAA accounting responses of the type Diameter accounting protocol. |
| Total diameter acct cancelled | The total number of cancelled AAA accounting requests of the type Diameter accounting protocol. |
| Total diameter acct purged | The total number of purged AAA accounting requests of the type Diameter accounting protocol. |
| Total radius acct requests | The total number of AAA accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server. |
| Current radius acct requests | The number of AAA accounting requests currently being processed by this AAAMgr instance for which the RADIUS protocol is being used to deliver the accounting message to the AAA server. |
| Total radius acct cancelled | The total number of cancelled RADIUS accounting requests received by this AAAMgr instance. |
| Total radius acct purged | The total number of RADIUS accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded. |
| Total radius acct requests retried | The total number of AAA accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server that were retried. |
| Total radius acct responses dropped | The total number of RADIUS accounting responses dropped by the AAAMgr instance. |
| Total radius sec acct requests | The total number of AAA secondary accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server. |
| Current radius sec acct requests | The number of AAA secondary accounting requests currently being processed by this AAAMgr instance for which the RADIUS protocol is being used to deliver the accounting message to the AAA server. |
| Total radius sec acct cancelled | The total number of cancelled RADIUS secondary accounting requests received by this AAAMgr instance. |
| Total radius sec acct purged | The total number of RADIUS secondary accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded. |

| Field | Description |
|--|--|
| Total radius sec acct requests retried | The total number of AAA secondary accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server that were retried. |
| Total gtpac acct requests | The total number of AAA accounting requests received by this AAAMgr instance for which the GTPP protocol was used to deliver the accounting message to the Charging Gateway Function (CGF). |
| Current gtpac acct requests | The current number of AAA accounting requests being processed by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF). |
| Total gtpac acct cancelled | The total number of accounting requests that were cancelled. |
| Total gtpac acct purged | The total number of accounting requests that were purged. |
| Total gtpac sec acct requests | The total number of secondary G-CDR requests being processed by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF). It counts total secondary G-CDRs generated by this AAAMgr instance. |
| Total gtpac sec acct purged | The total number of secondary G-CDR requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF). It counts total secondary G-CDRs purged by this AAAMgr instance. |
| Total null acct requests | The total number of AAA accounting requests received by this AAAMgr instance that were not required to be delivered to a AAA server. |
| Current null acct requests | The current number of AAA accounting requests being processed by this AAAMgr instance that are not required to be delivered to a AAA server. |
| Total aaa acct sessions | The total number of AAA accounting sessions facilitated by this AAAMgr instance. |
| Current aaa acct sessions | The number of AAA accounting sessions currently being facilitated by this AAAMgr instance. |
| Total aaa acct archived | The total number of AAA accounting requests received by this AAAMgr instance that initially failed to be delivered to a AAA server, and was subsequently archived for later transmission. |
| Current aaa acct archived | The current number of AAA accounting requests being processed by this AAAMgr instance that initially failed to be delivered to a AAA server and is currently archived for later transmission. |

| Field | Description |
|---|--|
| Current recovery archives | The number of AAA state records being maintained within the AAAMgr. They are used to generate accounting stops when a session manager fails or to recover the call in the Session Manager. |
| Current valid recovery records | The number of valid call recovery records that exist for current sessions. |
| Total aaa sockets opened | The total number of communication sockets opened by the AAAMgr instance for the purposes of communication with AAA servers. |
| Current aaa sockets open | The current number of communication sockets open by the AAAMgr instance for communication with AAA servers. |
| Total aaa requests pend socket open | The total number of AAA requests received by this AAAMgr instance that had to wait in queue while a socket to the AAA server was being opened. |
| Current aaa requests pend socket open | The number of AAA requests received by this AAAMgr instance that are currently waiting in queue while a socket to the AAA server is being opened. |
| Total radius requests pend server max-outstanding | The total number of RADIUS requests received by this AAAMgr instance that had to wait in queue because the limit of the number of outstanding RADIUS messages had been reached. |
| Current radius requests pend server max-outstanding | The number of RADIUS requests received by this AAAMgr instance that are currently waiting in queue because the limit of the number of outstanding RADIUS messages has been reached. |
| Total aaa radius coa requests | The total number of RADIUS Change Authorization Requests received from the RADIUS server. |
| Total aaa radius dm requests | The total number of RADIUS Disconnect Requests Received from the RADIUS server. |
| Total aaa radius coa acks | The total number of RADIUS Change Authorization Acknowledgement sent to the RADIUS server. |
| Total aaa radius dm acks | The total number of RADIUS Disconnect Acknowledgments sent to the RADIUS Server. |
| Total aaa radius coa naks | The total number of RADIUS Change Authorization Negative Acknowledgement sent to the RADIUS server. |
| Total aaa radius dm naks | The total number of RADIUS Disconnect Negative Acknowledgments sent to the RADIUS Server. |
| Total radius charg auth | The total number of authentication requests sent to the RADIUS charging server. |
| Total radius charg auth purg | The total number of RADIUS charging authentication requests purged. |

| Field | Description |
|--------------------------------|--|
| Current radius charg auth | The total number of current authentication requests sent to the RADIUS charging server. |
| Total radius charg auth succ | The total number of successful authentication requests sent to the RADIUS charging server. |
| Total radius charg auth fail | The total number of access reject received from the RADIUS charging server. |
| Total radius charg auth cancel | The total number of accounting authorization request that were cancelled. |
| Total radius charg acct | The total number of accounting requests sent to the RADIUS charging server. |
| Current radius charg acct | The total number of current accounting requests sent to the RADIUS charging server |
| Total radius charg acct succ | The total number of accounting responses from the RADIUS charging server. |
| Total radius charg acct cancel | The total number of accounting requests that were cancelled. |
| Total gtpm charg | The total number of GTPM accounting requests sent to the server. |
| Current gtpm charg | The total number of current GTPM requests sent to the charging server. |
| Total gtpm charg success | The total number of successful GTPM accounting responses from the charging server. |
| Total gtpm charg failure | The total number of failed GTPM accounting requests from the charging server. |
| Total gtpm charg cancelled | The total number of cancelled GTPM accounting requests from the charging server. |
| Total gtpm charg purged | The total number of purged GTPM accounting requests. |
| Total radius charg acct purg | The total number of accounting requests purged. |
| Total gtpm sec charg | The total number of secondary eG-CDR charging requests being processed by this AAAMgr instance for which the GTPM protocol is being used to deliver the charging message to the Charging Gateway Function (CGF). It counts total secondary eG-CDRs generated by this AAAMgr instance. |
| Total gtpm sec charg purged | The total number of secondary eG-CDRs charging requests being processed and purged by this AAAMgr instance for which the GTPM protocol is being used to deliver the charging message to the Charging Gateway Function (CGF) . It counts total secondary eG-CDRs purged by this AAAMgr instance |

| Field | Description |
|-----------------------------------|---|
| Total prepaid online requests | The total number of prepaid online requests. |
| Current prepaid online requests | The number of prepaid online requests that this AAAMgr instance is currently processing. |
| Total prepaid online success | The total number of prepaid online requests succeed. |
| Current prepaid online failure | The number of failed prepaid online requests that this AAAMgr instance is currently processing. |
| Total prepaid online retried | The total number of prepaid online requests retried. |
| Total prepaid online cancelled | The total number of prepaid online requests cancelled. |
| Current prepaid online purged | The total prepaid online cancelled. |
| Total aaamgr purged requests | The total number of purged AAAMgr requests. |
| SGSN: Total mm records | Total number of Mobility Management (MM) records in database of this AAAMgr instance for SGSN service. |
| SGSN: Total pdp records | Total number of PDP context records in database of this AAAMgr instance for SGSN service. |
| SGSN: Total auth records | Total number of authentication records in database of this AAAMgr instance for SGSN service. |
| MME: Total extension records | Total number of extension records in database of this AAAMgr instance for MME service. |
| MME: Total apn records | Total number of APN records in database of this AAAMgr instance for MME service. |
| MME: Total apn extension records | Total number of extended APN records in database of this AAAMgr instance for MME service. |
| MME: Total auth records | Total number of authentication records in database of this AAAMgr instance for MME service. |
| MME: Total auth extension records | Total number of extended authentication records in database of this AAAMgr instance for MME service. |
| Current active subscriber traces | Total number of subscribers currently enabled with Subscriber Tracing function in database of this AAAMgr instance for MME service. |

show session subsystem facility aaaproxy all



Important These statistics are from the perspective of the Session manager (SessMgr) and AAA Proxy Manager (AAAProxyMgr) task itself (not from the perspective of subscribers).

Table 506: show session subsystem facility aaaproxy all Command Output Descriptions

| Field | Description |
|----------------------|--|
| Total gtp requests | The total number of GTP requests sent. |
| Current gtp requests | The total number of outstanding GTP requests waiting for response from CGF/storage server. |
| Total GCDRs | The total number of G-CDRs sent. |
| Current GCDRs | The total number of outstanding G-CDRs waiting for response from CGF/storage server. |
| Total eGCDRs | The total number of eG-CDRs sent to CGF/storage server. |
| Current eGCDRs | The total number of outstanding eG-CDRs waiting for response from CGF/storage server. |
| Total PGW-GCDRs | The total number of PGW-CDRs sent to CGF/storage server. |
| Current PGW-GCDRs | The total number of outstanding PGW-CDRs waiting for response from CGF/storage server. |
| Total G-MB-CDRs | The total number of G-MB-CDRs sent. |
| Current G-MB-CDRs | The total number of outstanding G-MB_CDRs waiting for response from CGF/storage server. |
| Total SCDRs | The total number of S-CDRs sent. |
| Current SCDRs | The total number of outstanding S-CDRs waiting for response from CGF/storage server. |
| Total MCDRs | The total number of M-CDRs sent. |
| Current MCDRs | The total number of outstanding M-CDRs waiting for response from CGF/storage server. |
| Total S-SMO-CDRs | The total number of S-SMO-CDRs sent. |
| Current S-SMO-CDRs | The total number of outstanding S-SMO-CDRs waiting for response from CGF/storage server. |
| Total S-SMT-CDRs | The total number of S-SMT-CDRs sent. |

| Field | Description |
|------------------------|---|
| Current S-SMT-CDRs | The total number of outstanding S-SMT-CDRs waiting for response from CGF/storage server. |
| Total LCS-MT-CDRs | The total number of LCS-MT-CDRs sent. |
| Current LCS-MT-CDRs | The total number of outstanding LCS-MT-CDRs waiting for response from CGF/storage server. |
| Total LCS-MO-CDRs | The total number of LCS-MO-CDRs sent. |
| Current LCS-MO-CDRs | The total number of outstanding LCS-MO-CDRs waiting for response from CGF/storage server. |
| Total SMBMSCDRs | The total number of outstanding SMBMS CDRs waiting for response from CGF/storage server. |
| Total SGW-CDRs | The total number of outstanding S-GW CDRs waiting for response from CGF/storage server. |
| Current SGW-GCDRs | The total number of SGW-CDRs sent to CGF/storage server. |
| Total ePDG-CDRs | The total number of outstanding ePDG CDRs waiting for response from CGF/storage server. |
| Current ePDG-GCDRs | The total number of ePDG-CDRs sent to CGF/storage server. |
| Total WLAN-CDRs | The total number of outstanding WLANGW CDRs waiting for response from CGF/storage server. |
| Total sockets opened | The total number of sockets opened. |
| Current sockets opened | The total number of sockets waiting to open. |
| Total files closed | The total number of files that have been already closed. |
| Current Open files | The number of files that are currently open and still in use. |

show session subsystem facility asngwmgr all



Important

These statistics are from the perspective of the Session manager (SessMgr) and ASNGW Manager (ASNGWMgr) task itself (not from the perspective of subscribers).

Table 507: show session subsystem facility asngwmgr all Command Output Descriptions

| Field | Description |
|----------------|---|
| ASNGW Managers | Total number of active ASN GW Managers. |

| Field | Description |
|----------------------------|---|
| Total active services | Total number of active ASN GW services. |
| Anchor Session | Specifies the subsystem statistics for ASN GW service sessions in anchored mode. |
| Non-Anchor Session | Specifies the subsystem statistics for ASN GW service sessions in non-anchored mode. |
| Total calls arrived | Indicates the total number of sessions received by this ASN Gateway Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this ASN Gateway Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this ASN Gateway Manager instance. |
| Total dereg reply sent | Indicates the total number of sessions that were successfully de-registered, or disconnected, by this ASN Gateway Manager instance. |
| Total control pkts relayed | Indicates the total number of R6 control packets relayed via demux manager. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this ASN Gateway Manager instance. |
| Total active services | The total number of ASN Gateway services that are currently facilitating subscriber sessions. |

show session subsystem facility asnpcmgr all



Important

These statistics are from the perspective of the Session Manager (SessMgr) and ASN-PC Manager (ASNPCMgr) task itself (not from the subscriber perspective).

Table 508: show session subsystem facility asngwmgr all Command Output Descriptions 0

| Field | Description |
|-----------------------|---|
| ASNPC Managers | Total number of active ASN PC Manager instances. |
| Total active services | Total number of active ASN PC services. |
| Total calls arrived | Indicates the total number of sessions received by this ASN PC Manager instance for processing. |

| Field | Description |
|----------------------------|--|
| Total calls rejected | Indicates the total number of sessions that were rejected by this ASN PC Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this ASN PC Manager instance. |
| Total calls released | Indicates the total number of sessions that were successfully de-registered, or disconnected, by this ASN PC Manager instance. |
| Total control pkts relayed | Indicates the total number of R6 control packets relayed via demux manager. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this ASN Gateway Manager instance. |
| context name | Indicates the name of the context where ASN PC service is configured. |

show session subsystem facility egtpegmgr all



Important

These statistics are from the perspective of the Session Manager (SessMgr) and EGTP Egress Demux Manager (EGTPCegMgr) task itself (not from the subscriber perspective).

Table 509: show session subsystem facility egtpegmgr Command Output Descriptions

| Field | Description |
|------------------------------|---|
| EGTPEGMgr | The EGTP Egress Demux Manager task instance number. Since multiple EGTP Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total messages arrived | Indicates the total number of messages received by this EGTP Manager instance for processing. |
| Total messages rejected | Indicates the total number of messages that were rejected by this EGTP Manager instance. |
| Total messages demultiplexed | Indicates the total number of messages that were successfully set up by this by this EGTP Manager instance. |
| Total Peer Nodes | Indicates the total number of peer nodes available for facilitating subscriber sessions. |
| Total Active Peer Nodes | The total number of peer nodes that are currently facilitating subscriber sessions. |

| Field | Description |
|-----------------------------|---|
| Total active services | The total number of EGTP services that are currently facilitating subscriber sessions. |
| Total Path Failure Detected | The total number of path failure errors detected by both the Session Manager and EGTP Egress Demux Manager. |
| Informed by sessmgr | The total number of path failure errors detected by the Session Manager |
| Detected by demuxmgr | The total number of path failure errors detected by the EGTP Egress Demux Manager. |
| context name | The context to which this EGTP Egress Manager belongs. |

show session subsystem facility egtpinmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and EGTP Ingress Demux Manager (EGTPCinMgr) task itself (not from the subscriber perspective).

Table 510: show session subsystem facility egtpinmgr Command Output Descriptions

| Field | Description |
|---------------------------|--|
| EGTPINMgr | The EGTP Ingress Demux Manager task instance number. Since multiple EGTP Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | Indicates the total number of sessions received by this EGTP Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this EGTP Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this EGTP Manager instance. |
| Total SGSNs | Indicates the total number of SGSNs available for facilitating subscriber sessions. |
| Total Active SGSNs | The total number of SGSNs that are currently facilitating subscriber sessions. |
| Total active services | The total number of EGTP services that are currently facilitating subscriber sessions. |

show session subsystem facility famgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and FA Manager (FAMgr) task itself (not from the subscriber perspective).

Table 511: show session subsystem facility famgr Command Output Descriptions

| Field | Description |
|---------------------------|--|
| FAMgr | The FA Manager task instance number. Since multiple FA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | Indicates the total number of sessions received by this FA Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this FA Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this FA Manager instance. |
| Total dereg reply sent | Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this FA Manager instance. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this FA Manager instance. |
| Total active services | The total number of FA services that are currently facilitating subscriber sessions. |

show session subsystem facility gtpcmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and GTPC Manager (GTPCMgr) task itself (not from the subscriber perspective).



Important This command is not supported release 14.0 onwards. Look for new command **show session subsystem facility egtpinmgr all** instead.

Table 512: show session subsystem facility gtpcmgr Command Output Descriptions

| Field | Description |
|---------------------------|--|
| GTPCMgr | The GTPC Manager task instance number. Since multiple GTPC Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | Indicates the total number of sessions received by this GTPC Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this GTPC Manager instance. |
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this GTPC Manager instance. |
| Total SGSNs | Indicates the total number of SGSNs available for facilitating subscriber sessions. |
| Total Active SGSNs | The total number of SGSNs that are currently facilitating subscriber sessions. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this GTPC Manager instance. |
| Total active services | The total number of GTPC services that are currently facilitating subscriber sessions. |

show session subsystem facility hamgr all



Important

These statistics are from the perspective of the Session Manager (SessMgr) and HA Manager (HAMgr) task itself (not from the subscriber perspective).

Table 513: show session subsystem facility hamgr all Command Output Descriptions

| Field | Description |
|----------------------|--|
| HAMgr | The HA Manager task instance number. Since multiple HA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | Indicates the total number of sessions received by this HA Manager instance for processing. |
| Total calls rejected | Indicates the total number of sessions that were rejected by this HA Manager instance. |

| Field | Description |
|---------------------------|--|
| Total calls demultiplexed | Indicates the total number of sessions that were successfully setup by this by this HA Manager instance. |
| Total dereg reply sent | Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this HA Manager instance. |
| Current active calls | Indicates the total number of active sessions currently being facilitated by this HA Manager instance. |
| Total active services | The total number of HA services that are currently facilitating subscriber sessions. |

show session subsystem facility ipsgmgr



Important

These statistics are from the perspective of the IPSP Manager (IPSPMgr) task itself (not from the subscriber perspective).

Table 514: show session subsystem facility ipsgmgr Output Descriptions

| Field | Description |
|---------------------------|--|
| IPSP Managers | The total number of IPSP Managers running on the chassis. |
| Total calls arrived | The total number of calls received and processed by the IPSP Managers. |
| Total calls rejected | The total number of calls rejected by the IPSP Managers. |
| Total calls demultiplexed | The total number of calls demultiplexed by the IPSP Managers. |
| Total dereg reply sent | The total number of deregistration replies sent by the IPSP Manager. |
| Current active calls | The total number of active sessions currently being facilitated by the IPSP Manager instances. |
| Total active services | The total number of IPSP services that are currently facilitating subscriber sessions. |

show session subsystem facility mmedemux



Important These statistics are from the perspective of the MME Demux Manager (MMEDemuxr) task itself (not from the subscriber perspective).

Table 515: show session subsystem facility mmedemux Output Descriptions

| Field | Description |
|---|--|
| MME Demux Managers | The total number of MME managers running on a chassis. |
| Total number of packets received | The total number of packets received and processed for EPS session by the MME Demux manager. |
| Total number of packets received (IPSec) | The total number of encrypted packets received and processed for EPS session by the MME Demux manager. |
| Total number of packets dropped | The total number of packets received but dropped by the MME Demux manager. |
| Total number of packets dropped (Total MME Unavail) | The total number incoming packets dropped by the MME Demux subsystem (at S1 interface, coming from eNodeB) while waiting for all MME Managers to be activated (status = UP). The MME waits to start processing traffic only after the expected number of MME Managers are UP after an MME restart. |
| Total number of packets dropped (Assurance Violation) | The total number of packets received but dropped due to not being encrypted. |
| Total number of octets received | The total number of packets received and processed for EPS session by the MME Demux manager. |
| Total number of octets received (IPSec) | The total number of encrypted octets received and processed for EPS session by the MME Demux manager. |
| Total number of octets dropped | The total number of octets received but dropped by the MME Demux manager. |
| Total number of octets dropped (Assurance Violation) | The total number of octets received but dropped due to not being encrypted. |
| Total Services | The total number of MME services managed by the MME Demux Manager. |
| Total Services (IPSec) | The total number of IPSec-enabled MME services managed by the MME Demux Manager. |
| Enodeb Associations | The total number of eNodeBs connected/associated with MME services managed by the MME Demux Manager. |

| Field | Description |
|--|--|
| Enodeb Associations (IPSec) | The total number of IPSec-enabled eNodeBs connected/associated with MME services managed by the MME Demux Manager. |
| Total SBC Associations Rejected | The total number of SBC Associations rejected by the MME Demux Manager. |
| Total number of S1 sctp packets dropped (rate-limit) | This counter displays the number of SCTP packets dropped due to the configured rate limit for incoming S1 SCTP connections in MME per chassis. |

show session subsystem facility mmemgr all



Important

These statistics are from the perspective of the MME Manager (MMEMgr) task itself (not from the subscriber perspective).

Table 516: show session subsystem facility mmemgr all Output Descriptions

| Field | Description |
|-----------------------|---|
| MME Managers | Indicates the total number of MME managers running on a chassis. |
| SCTP Statistics | This group displays the statistics captured over the SCTP interface and processed by this MME manager. |
| Transmitted SCTP Data | This sub-group displays the statistics of the total data processed and transmitted over SCTP interface by this MME manager. |
| Init Chunks | Indicates the total SCTP packets with INIT transmitted over SCTP interface by this MME manager. |
| Init Ack Chunks | Indicates the total SCTP packets with INIT-ACK transmitted over SCTP interface by this MME manager. |
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN transmitted over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | Indicates the total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this MME manager. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE transmitted over SCTP interface by this MME manager. |
| Cookie Ack Chunks | Indicates the total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this MME manager. |
| Data Chunks | Indicates the total SCTP packets with DATA transmitted over SCTP interface by this MME manager. |

| Field | Description |
|--------------------------|--|
| Data Ack Chunks | Indicates the total SCTP packets with DATA-ACK transmitted over SCTP interface by this MME manager. |
| Shutdown Complete Chunks | Indicates the total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this MME manager. |
| Heartbeat Chunks | Indicates the total SCTP packets with HEARTBEAT transmitted over SCTP interface by this MME manager. |
| HeartBeat Ack Chunks | Indicates the total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this MME manager. |
| Abort Chunks | Indicates the total SCTP packets with ABORT transmitted over SCTP interface by this MME manager. |
| Error Chunks | Indicates the total SCTP packets with ERROR transmitted over SCTP interface by this MME manager. |
| Received SCTP Data | This sub-group displays the statistics of the total data received over SCTP interface and processed by this MME manager. |
| Init Chunks | Indicates the total SCTP packets with INIT received over SCTP interface by this MME manager. |
| Init Ack Chunks | Indicates the total SCTP packets with INIT-ACK received over SCTP interface by this MME manager. |
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN received over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | Indicates the total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this MME manager. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE received over SCTP interface by this MME manager. |
| Cookie Ack Chunks | Indicates the total SCTP packets with COOKIE-ACK received over SCTP interface by this MME manager. |
| Data Chunks | Indicates the total SCTP packets with DATA received over SCTP interface by this MME manager. |
| Data Ack Chunks | Indicates the total SCTP packets with DATA-ACK received over SCTP interface by this MME manager. |
| Shutdown Complete Chunks | Indicates the total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this MME manager. |
| Heartbeat Chunks | Indicates the total SCTP packets with HEARTBEAT received over SCTP interface by this MME manager. |
| HeartBeat Ack Chunks | Indicates the total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this MME manager. |

| Field | Description |
|---|---|
| Abort Chunks | Indicates the total SCTP packets with ABORT received over SCTP interface by this MME manager. |
| Error Chunks | Indicates the total SCTP packets with ERROR received over SCTP interface by this MME manager. |
| Retransmitted Sctp Data | This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this MME manager. |
| Init Chunks | Indicates the total SCTP packets with INIT retransmitted over SCTP interface by this MME manager. |
| Shutdown Chunks | Indicates the total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this MME manager. |
| Shutdown Ack Chunks | Indicates the total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this MME manager. |
| Cookie Chunks | Indicates the total SCTP packets with COOKIE retransmitted over SCTP interface by this MME manager. |
| Data Chunks | Indicates the total SCTP packets with DATA transmitted over SCTP interface by this MME manager. |
| Total Bytes Sent To Lower Layer | Indicates the total bytes processed and sent to lower layer over SCTP interface by this MME manager. |
| Total Bytes Received From Lower Layer | Indicates the total bytes received from lower layer over SCTP interface by this MME manager for processing. |
| Total Packets Sent To Lower Layer | Indicates the total packets processed and sent to lower layer over SCTP interface by this MME manager. |
| Total Packets Received From Lower Layer | Indicates the total packets received from lower layer over SCTP interface by this MME manager for processing. |
| S1AP Statistics | This group displays the statistics captured over S1-AP interface and processed by this MME manager received or transmitted from/to eNodeB. |
| Transmitted S1AP Data | This sub-group displays the statistics of the total data processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| S1 Setup Response | Indicates the total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| S1 Setup Failure | Indicates the total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |

| Field | Description |
|---|---|
| Reset | Indicates the total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| Reset Acknowledge | Indicates the total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| Overload Start | Indicates the total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| Overload Stop | Indicates the total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| MME Dir Information Transfer | Indicates the total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| Paging | Indicates the total number of PAGING messages for paging procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| EnodeB Configuration Update Acknowledge | Indicates the total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| EnodeB Configuration Update Failure | Indicates the total number of ENB CONFIGURATION UPDATE FAILURE messages for eNodeB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| MME Configuration Update | Indicates the total number of MME CONFIGURATION UPDATE messages sent by this MME manager to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface. |
| S1AP Encode Failure | Indicates the total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| Paging Dropped | Indicates the total number S1 paging requests to all eNodeBs which were dropped because the number of paging requests exceeded the S1 paging rate threshold as configured in the Global Config Mode command: network-overload-protection mme-tx-msg-rate-control enb s1-paging . |

| Field | Description |
|---|---|
| Received S1AP Data | This sub-group displays the statistics for the total amount of data received over the S1-AP interface by this MME manager from eNodeB. |
| S1 Setup Request | Indicates the total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1-AP interface by this MME manager from eNodeB. |
| Reset | Indicates the total number of S1 RESET messages for S1 reset procedure received over S1-AP interface by this MME manager from eNodeB. |
| Reset Acknowledge | Indicates the total number of S1 RESET-ACK messages for S1 reset procedure received over S1-AP interface by this MME manager from eNodeB. |
| EnodeB Dir Information Transfer | Indicates the total number of ENB DIRECT INFORMATION TRANSFER messages for eNB Direct Information Transfer procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| EnodeB Configuration Update | Indicates the total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB. |
| S1AP Decode Failure | Indicates the total number of failure occurred during S1AP decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1-AP interface by this MME manager from eNodeB. |
| S1AP Unexpected Event | Indicates the total number of failure occurred due to unexpected events during S1AP procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1-AP interface by this MME manager from eNodeB. |
| Total Services | Indicates the total number of MME services managed by this MME Manager. |
| Total Services (IPSec) | Indicates the total number of IPSec-enabled MME services managed by this MME Manager. |
| Enodeb Associations | Indicates the total number of eNodeBs connected/associated with MME services managed by this MME Manager. |
| Enodeb Associations (IPSec) | Indicates the total number of IPSec-enabled eNodeBs connected/associated with MME services managed by this MME Manager. |
| S1AP Partial Reset to Sessmgr(Non-Vector) | Indicates the total number of Partial Reset messages received by each Session Manager. |

| Field | Description |
|---|---|
| Service Start Request | The total number of service start requests received by MMEMgr. |
| Service Modify Request | The total number of service modify requests received by MMEMgr. |
| Service Stop Request | The total number of service stop requests received by MMEMgr. |
| Paging Messages Sent | The total number of paging messages sent by MMEMgr. |
| Temporary EnodeB entries(For Trap Generation) | The total number of eNodeB entries cached for generating SNMP traps. |
| PLMN Validation Failure | The total number of PLMN validations failed at MMEMgr. |
| EnodeB Id Validation Failure | The total number of eNodeB id validations failed at MMEMgr. |
| usap(SCTP Endpoints) Allocated | The total number of SCTP user service access points allocated at MMEMgr. |
| Current Number of SCTP Flows | Current number of SCTP flows at MMEMgr. |
| Dropped Packets Reason | The following group of counters displays the number of packets dropped at the MME Manager due to various reasons. |
| Incorrect Length | The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet. |
| Oversized PDU | The total number of dropped packets with reason: Received PDU length at MED layer is more than DBUF size(10K bytes). |
| No Flow exists | The total number of dropped packets with reason: There is no SCTP flow existing for the flowId received from underlying layer. |
| Flow Inactive | The total number of dropped packets with reason: Flow entry is not Active when the message is received. |
| Invalid IP Ver | The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet. |
| Port Mismatch | The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet. |
| Invalid Protocol | The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet. |
| Total Services(SBc) | Total number of SBc services configured on this system. |
| SBc Statistics | |

| Field | Description |
|--------------------------------|--|
| Transmitted SBc Data | This subgroup includes counters for data transmitted for all SBc services. |
| Total Transmitted | Total number of messages transmitted from the MME to all CBCs. |
| Transmit Errors | This subgroup includes counters for errors encountered while transmitting SBc messages towards CBC. |
| Transport Errors | Total number of failures, due to SCTP, while transmitting SBc messages towards CBC. |
| Encode Failures | Total number of failures in sending messages to CBC due to message encoding failures. |
| No buffers | Total number of failures in sending messages to CBC due to memory allocation failures. |
| Transport Buffer Failure | Total memory allocation failures during sending of SBc message over SCTP. |
| Encode Buffer Failure | Total memory allocation failures during encoding of IEs for SBc message. |
| Write Replace Warning Response | The total number of Write-Replace Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Beast Not Operational + Message Accepted). |
| Tracking Area Not Valid | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid. |
| MME Capacity Exceeded | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded. |
| Warn Beast NotOperational | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational. |
| Message Accepted | The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted. |
| Stop Warning Response | The total number of Stop Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Beast Not Operational + Message Accepted). |
| Tracking Area Not Valid | The total number of Stop Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid. |
| MME Capacity Exceeded | The total number of Stop Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded. |

| Field | Description |
|-------------------------------|---|
| Warn Bcast NotOperational | The total number of Stop Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational. |
| Message Accepted | The total number of Stop Warning Response messages sent from the MME to the CBC with cause Message Accepted. |
| Error Indication | The total number of Error Indication messages sent from the MME to the CBC. |
| Received Sbc Data | This subgroup includes counters for data received for all Sbc services. |
| Total Received PDUs | The total number of messages received from all CBCs. |
| PDU Decode Success | The total number of successful PDU decodes. |
| Receive Errors | This subgroup includes counters for PDU receive errors. |
| No Sbc Association | The total number of received Sbc messages dropped due to no matching association. |
| PDU Decode Failures | The total number of received Sbc messages dropped due to PDU decode failure. |
| Write Replace Warning Request | The total number of Write Replace Warning Request messages received from the CBC. |
| TAI List Not Present | The total number of Write Replace Warning Request messages received from the CBC without a List-Of-TAIs IE. |
| Stop Warning Request | The total number of Stop Warning Request messages received from the CBC. |
| TAI List Not Present | The total number of Stop Warning Request messages received from the CBC without a List-Of-TAIs IE. |
| Error Indication | The total number of Error Indication messages received from the CBC. |
| IE Errors | The total number of CBC IE failures. |
| Protocol Error Statistics | This subgroup includes counters for Protocol Errors for all Sbc services. |
| Unknown Procedures | The total number of messages encountered with Unknown Procedure codes. |
| Unknown IEs | The total number of messages encountered with Unknown IEs. |
| Unknown Messages | The total number of unrecognized messages encountered. |

| Field | Description |
|----------------------------|--|
| Missing Mandatory IEs | The total number of messages encountered with Missing Mandatory IE. |
| Transfer Syntax Error | The total number of messages encountered with a Transfer Syntax Error. |
| Semantic Error | The total number of messages encountered with a Semantic Error. |
| Message Not Compatible | The total number of messages encountered with error: Message Not Compatible. |
| Others | The total number of parser internal messages. |
| Abstract Syntax Errors | This subgroup includes counters for Abstract Syntax Errors for all SBc services. |
| Reject | The total number of messages encountered with Abstract Syntax Error with Criticality: Reject. |
| Ignore and notify | The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore and Notify. |
| Ignore | The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore. |
| Falsely Constr Message | The total number of messages encountered with Abstract Syntax Error: Falsely Constructed message. |
| SBc Association Statistics | This subgroup includes counters related to SBc Associations for all SBc services. |
| Total Active | The total number of SBc Associations currently Active. |
| Total Created | The total number of SBc Associations created. |
| Total Closed | The total number of SBc Associations closed. |
| CBC Transactions Created | The total number of CBC transactions created. |
| CBC Transaction Failed | The total number of CBC transactions failed. |
| CBC Transaction Timeout | The total number of CBC transactions timed out. |
| SCTP Flows | The current number of SCTP flows for SBc data at the MMEMgr. |
| CBC Not Found | The total number of errors due to CBC not found. |
| IMSIMGR Selection counters | Displays the IMSI Manager Selection Counters |
| IMSIMGR 1 | Displays the number of requests at the IMSI Manager "1". |
| IMSIMGR 2 | Displays the number of requests at the IMSI Manager "2". |
| IMSIMGR 3 | Displays the number of requests at the IMSI Manager "3". |

| Field | Description |
|---------------------------|---|
| IMSIMGR 4 | Displays the number of requests at the IMSI Manager "4". |
| Paging CS Priority | Displays the configured CS Priority value |
| Paging PS priority | Displays the configured PS Priority value |
| Congestion-Configuration: | |
| CPU Congestion | Indicates whether CPU congestion control is enabled or disabled - Enabled/Disabled. |
| Thresholds: | |
| CPU Utilization | Displays the configured CPU utilization value. |
| CPU Tolerance | Displays the configured CPU tolerance value. |
| Congestion-State | Indicates the congestion state - Busy/Not Busy. |
| Congestion History: | |
| Timestamp | Displays the timestamp. |
| CPU usage | Displays the CPU usage. |

show session subsystem facility sessmgr all



Important

These statistics are from the perspective of the Session Manager (SessMgr) task itself (not from the subscriber perspective).

Table 517: show session subsystem facility sessmgr all Output Descriptions

| Field | Description |
|-----------------------|---|
| SessMgr | Displays the Session Manager task instance number. Since multiple Session Manager tasks can be operating simultaneously in the system, each one is assigned an instance number. |
| Total calls arrived | The total number of calls for which registration requests were received by this Session Manager instance. |
| Total calls rejected | The total number of calls that were rejected by this Session Manager instance. |
| Total calls connected | The total number of calls that are connected (including active, dormant, being set up, and being disconnected) by this Session Manager instance. |

| Field | Description |
|-----------------------------------|--|
| Total calls failed | The total number of calls processed by this Session Manager instance which have failed. |
| Total calls disconnected | The total number of calls that were disconnected by this Session Manager instance. |
| Total handoffs | The total number of calls that are handed off by this Session Manager instance. |
| Total renewals | The total number of call that were reprocessed by this Session Manager instance. |
| Total active-to-idle transitions | The total number of call sessions passed through active mode to idle mode. |
| Total idle-to-active transitions | The total number of call sessions passed through idle mode to active mode. |
| Total auth successes | The total number of successful authentications for calls being processed by this Session Manager instance. |
| Total auth failure | The total number of failed authentications for calls being processed by this Session Manager instance. |
| Current aaa active sessions | The total number of calls being processed by this Session Manager instance for which there are active AAA authentication and/or accounting sessions. |
| Current aaa deleting sessions | The total number of calls being processed by this Session Manager instance for which the AAA accounting is being terminated. |
| Current aaa acct pending | The total number of calls being processed by this Session Manager instance for which there are pending AAA authentication and/or accounting sessions. |
| aaa acct items (used/max) | The total number of AAA accounting items used and the maximum allowed by this Session Manager instance. |
| aaa buffer (used in MB/max in MB) | The AAA buffer space used and the maximum allowed in megabytes for this Session Manager instance. |
| Total aaa cancel auth | The total number of canceled AAA authentication requests for this Session Manager instance. |
| Total aaa acct purged | The total number of AAA accounting requests received by this Session Manager instance that had to be purged because the storage limit of pending accounting requests had been exceeded. |
| Total radius acct purged | The total number of RADIUS accounting requests received by this Session Manager instance that had to be purged because the storage limit of pending accounting requests had been exceeded. |

| Field | Description |
|---|---|
| Total LCP up | The total number of calls being processed by this Session Manager instance that have completed the Link Control Protocol (LCP) phase of the registration process. |
| Total IPCP up | The total number of calls being processed by this Session Manager instance that have completed the Internet Protocol Control Protocol (IPCP) phase of the registration process. |
| Total IPv6CP up | The total number of calls being processed by this Session Manager instance that have completed the Internet Protocol version 6 (IPv6) phase of the registration process. |
| Total source violation | The total number of source violations experienced for all calls being processed by this Session Manager instance. |
| Total keepalive failure | The total number of keep-alive failures experienced for all calls being processed by this Session Manager instance. |
| Empty fwd pkt sessions | The total number of calls that were processed by this session manager instance for which there were no data packets being sent to the subscriber. |
| Empty rev pkt sessions | The total number of calls that were processed by this session manager instance for which there were no data packets being received from the subscriber. |
| Total 3gpp2 prepaid sess | The total number of 3gpp2 prepaid sessions on the system. |
| Current 3gpp2 prepaid sess | The current number of active 3gpp2 prepaid sessions on the system. |
| Total 3gpp2 online auth requests | The total number of 3gpp2 sessions requesting authentication on the system. |
| Total 3gpp2 online auth success | The total number of authenticated 3gpp2 active sessions on the system. |
| Total 3gpp2 online auth failures | The total number of 3gpp2 sessions that had authentication failures. |
| Total 3gpp2 online prepaid errors | The total number of prepaid 3gpp2 sessions that incurred errors. |
| Total 3gpp2 prepaid initial auth errors | The total number of prepaid initial 3gpp2 sessions that had authentication errors. |
| Total Rfc3261 subscribers | Total number of subscribers registered in CSCF Rfc3261 service. |
| Total Proxy Cscf subscribers | Total number of subscribers registered in Proxy-CSCF service. |
| Total Serving Cscf subscribers | Total number of subscribers registered in Serving-CSCF service. |
| Total Proxy-Serving cscf subscribers | Total number of subscribers registered in Collapsed Proxy-Serving-CSCF service. |

| Field | Description |
|----------------------------------|---|
| Total voice-push sessions | The total number of voice-push sessions. |
| Current voice-push sessions | The current number of active voice-push sessions. |
| Total voice-push-filt sessions | The total number of voice-push-filt sessions. |
| Current voice-push-filt sessions | The current number of voice-push-filt sessions. |
| Total non-voice-push sessions | The total number of non-voice-push session. |
| Current non-voice-push sessions | The current number of non-voice-push sessions |
| Total undetermined sessions | The total number of undetermined sessions. |
| Current undetermined sessions | The current number of undetermined sessions. |
| Intra-ASNGW HO attempted | The total number of inter-BS (Intra-ASN GW) handovers attempted by system. |
| Intra-ASNGW HO succeeded | The total number of inter-BS (Intra-ASN GW) handover attempts succeeded. |
| Inter-ASNGW HO attempted | The total number of inter-ASN GW handovers attempted by system. |
| Inter-ASNGW HO succeeded | The total number of inter-ASN GW handover attempts succeeded. |
| ASNPC IM Entry attempted | The total number of idle mode entry attempted by Paging Controller. |
| ASNPC IM Entry Succeeded | The total number of idle mode entry by Paging Controller succeeded. |
| ASNPC IM Exit attempted | The total number of idle mode exit attempted by Paging Controller. |
| ASNPC IM Exit Succeeded | The total number of idle mode exit by Paging Controller succeeded. |
| ASNPC LU attempted | The total number of location updates attempted by Paging Controller. |
| ASNPC LU Succeeded | The total number of location updates by Paging Controller succeeded. |
| ASNPC Paging Triggered | The total number of pagings triggered by Paging Controller. |
| ASN Ctrl packets received | The total number of control packets received for ASN GW service session. |
| ASN Ctrl packets runt received | The total number of control packets with run-time error discarded for ASN GW service session. |

| Field | Description |
|---|---|
| ASN Ctrl packets csum received | The total number of control packets with checksum error discarded for ASN GW service session. |
| ASN Ctrl packets no-flow discarded | The total number of control packets (without any flow) discarded for ASN GW service session. |
| ASNGW data pkts stored (during paging) | The total number of data packets stored during paging. |
| ASNGW data pkts flushed (during paging) | The total number of data packets flushed during paging. |
| CRP-RP handoff attempted | The total number of Closed RP to RP handoffs that were attempted. |
| CRP-RP handoff succeeded | The total number of Closed RP to RP handoffs that succeeded. |
| RP-CRP handoff attempted | The total number of RP to Closed RP handoffs that were attempted. |
| RP-CRP handoff succeeded | The total number of RP to Closed RP handoffs that succeeded. |
| Current active subscriber traces | Total number of subscribers currently enabled with Subscriber Tracing function in database of this SessMgr instance for MME service. |
| Current MME EGTP path failure queued for ecm-idle sessions | The current number of ECM Idle sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). |
| Current MME EGTP path failure queued for ecm-connected sessions | The current number of ECM Connected sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). |
| Maximum MME EGTP path failure queued for ecm-idle sessions | The maximum number of ECM Idle sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). This is the maximum value of the current ecm-idle sessions reached since the Session Manager started. |
| Maximum MME EGTP path failure queued for ecm-connected sessions | The maximum number of ECM Connected sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). This is the maximum value of the current ecm-connected sessions reached since the Session Manager started. |
| Data statistics | This table categorizes the number of Receive and Transmit packets into packet size ranges. These statistics are totals for all calls being processed by this Session Manager instance. |
| In-Progress Call Duration Statistics | This table categorizes the total number of calls being processed by this Session Manager according to various time durations ranging from less than (<) 1 minute to greater than (>) 24 hours. |

| Field | Description |
|--|---|
| Setup Time Statistics | This table categorizes the amount of time it took to set up calls according to various time durations ranging from less than (<) 100 ms to greater than (>) 18 seconds. |
| Total SGSN Fast Path statistics update | Total number of updates for statistical information from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path statistics update | Total number of updates for statistical information from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path out-of-order statistics updates | Total number of updates for out of order packet statistics from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path out-of-order statistics updates | Total number of updates for out of order packet statistics from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path statistics updates lost | Total number of packets lost for statistical updates from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path statistics updates lost | Total number of packets lost for statistical updates from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path packets lost | Total number of lost packets of all types from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path packets lost | Total number of lost packets of all types from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path bytes lost | Total number of lost bytes from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path bytes lost | Total number of lost bytes from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path packets received | Total number of all type of packets received from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |

| Field | Description |
|---|---|
| Total Gtpu Fast Path packets received | Total number of all type of packets received from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| Total SGSN Fast Path bytes received | Total number of all type of bytes received from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions. |
| Total Gtpu Fast Path bytes received | Total number of all type of bytes received from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions. |
| In-progress calls | The number of calls that are currently in progress (active, dormant, being set up, or being disconnected) and being processed by either the system (if no keywords were used), a specific PDSN service (if the pdsn-service keyword was used), or a specific PCF (if the pcf keyword was used). |
| In-progress active calls | The total number of active sessions being processed by this Session Manager instance. |
| In-progress dormant calls | The total number of dormant sessions being processed by this Session Manager instance. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| In-progress always-on calls | The total number of always-on sessions being processed by this Session Manager instance. |
| In-progress calls @ MBMS UE AUTHORIZING state | The total number of MBMS sessions currently in UE authorization state. |
| In-progress calls @ MBMS BEARER AUTHORIZING state | The total number of MBMS sessions currently in bearer authorization state. |
| In-progress calls @ ARRIVED state | The total number of sessions being processed by this Session Manager instance that are at the onset of the registration process. |
| In-progress calls @ LCP-NEG state | The total number of sessions being processed by this Session Manager instance that are in the Link Control Protocol (LCP) negotiation phase of the registration process. |
| In-progress calls @ LCP-UP state | The total number of sessions being processed by this Session Manager instance that have just completed the Link Control Protocol (LCP) negotiation phase of the registration process. |
| In-progress calls @ AUTHENTICATING state | The total number of sessions being processed by this Session Manager instance that are in the process of being authenticated. |

| Field | Description |
|--|---|
| In-progress calls @ AUTHENTICATED state | The total number of sessions being processed by this Session Manager instance that have just completed the authentication phase of the registration process. |
| In-progress calls @ L2TP-LAC CONNECTING state | The number of calls that have an L2TP tunnel in the process of being brought up. |
| In-progress calls @ IPCP-UP state | The total number of sessions being processed by this Session Manager instance that have just completed the Internet Protocol Control Protocol (IPCP) phase of the registration process. |
| In-progress calls @ NON-ANCHOR CONNECTED state | The total number of WiMAX sessions being processed by this Session Manager instance that are currently being in connected state in non-anchor mode. |
| In-progress calls @ MOBILE-IPv6 CONNECTED state | Total number of Proxy Mobile IPv6 sessions currently established. |
| In-progress calls @ GTP CONNECTING state | Total number of GTPv2 sessions in connecting state which are awaiting Create Session Response message in reply to Create Session Request already sent. |
| In-progress calls @ GTP CONNECTED state | Total number of GTPv2 sessions currently established. |
| In-progress calls @ PROXY-MOBILE-IP CONNECTING state | Total number of Proxy Mobile IPv6 sessions in connecting state and are waiting for PBA in reply to PBU already sent. |
| In-progress calls @ SIMPLE-IP CONNECTED state | The total number of Simple IP data sessions being processed by this Session Manager instance that are currently being supported. |
| In-progress calls @ MOBILE-IP CONNECTED state | The total number of Mobile IP data sessions being processed by this Session Manager instance that are currently being supported. |
| In-progress calls @ PROXY-MOBILE-IP CONNECTED state | The total number of Proxy Mobile IP data sessions being processed by this Session Manager instance that are currently being supported. |
| In-progress calls @ EPDG RE-AUTHORIZING state | Total number of sessions for which RAR is received from AAA and are in phase of reauthorization. |
| In-progress calls @ L2TP-LAC CONNECTED state | The number of calls that are passing data through an L2TP tunnel. |
| In-progress calls @ PDP-TYPE-IP CONNECTED state | The total number of PDP contexts of type IP that are currently connected. This field applies to GGSN only. |
| In-progress calls @ PDP-TYPE-PPP CONNECTED state | The total number of PDP contexts of type PPP that are currently connected. This field applies to GGSN only. |
| In-progress calls @ BCMCS CONNECTED state | The total number of BCMCS sessions currently in connected state. |
| In-progress calls @ MBMS UE CONNECTED state | The total number of MBMS sessions currently in UE connected state. |

| Field | Description |
|---|--|
| In-progress calls @ MBMS BEARER CONNECTED state | The total number of MBMS sessions currently in bearer connected state. |
| In-progress calls @ ASNPC CONNECTED state | The number of ASN Paging Controller calls that are currently connected. |
| In-progress calls @ DISCONNECTING state | The total number of sessions being processed by this Session Manager instance that are in the process of disconnecting. |
| In-progress calls @ CSCF-REGISTERING state | Total number of CSCF sessions which are in registration processing state. |
| In-progress calls @ CSCF-REGISTERED state | Total number of cscf sessions which are in registered state. |
| In-progress calls @ CSCF-CALL-ARRIVED state | Total number of CSCF sessions which are processing the newly arrived CSCF calls (i.e., processing initial Invite, waiting for provisional response, waiting for final response, etc.). |
| In-progress calls @ CSCF-CALL-CONNECTING state | Total number of CSCF sessions which are in call connecting state (waiting for ACK). |
| In-progress calls @ CSCF-CALL-CONNECTED state | Total number of CSCF sessions which are in call connected state. |
| In-progress calls @ CSCF-CALL-DISCONNECTING state | Total number of CSCF sessions which are in call disconnecting state (i.e., processing BYE , waiting for BYE response, etc.). |
| In-progress calls @ MME ATTACHED state | Indicates the number of MME subscriber session currently attached. |
| User Data statistics | This section indicates the Data octets and Data packets received and send by a user. |
| Data octets from User | The number of Data octets send from the user. |
| Data octets to User | The number of Data octets received by the user. |
| Data packets from User | The number of Data packets send from the user. |
| Data packets to User | The number of Data packets received by the user. |
| Pilot packet statistics | |
| VPN name | Name of the VPN |
| Server name | Name of the server |
| Total NAT Alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all NAT enabled calls. |
| Total NAT De-alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all NAT enabled calls. |
| Total Non NAT Alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all non-NAT calls. |

| Field | Description |
|---|--|
| Total Non NAT De-alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all non-NAT calls. |
| Total Alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all call types. |
| Total De-alloc Pilot-Packets Sent | The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all call types. |
| RAT-Change-User-Info | The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change. |
| RAT-Change-NAT-Info | The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change. |
| Geog Redundancy Compression Info | The Service Redundancy Protocol (SRP) compression algorithm used for payload messaging between Interchassis Session Recovery (ICSR) chassis in support of geographical redundancy. |
| Checkpoint Compress Supported | Indicates the current compression algorithm supported on this chassis: none (SRP not enabled), lz4 or zlib (default). |
| Checkpoint Compress Agreed | Indicates the negotiated compression algorithm agreed to by both the Active and Standby chassis: none (SRP not enabled), lz4 or zlib (default). |
| <lz4 or Zlib> Compression Statistics | Specifies the algorithm for which the following statistics apply. |
| CompSuccess | The total number of successful compression attempts. |
| DeCompSuccess | The total number of successful decompression attempts. |
| CompFailure | The total number of failed compression attempts. |
| DeCompFailure | The total number of failed decompression attempts. |
| init | Debug only |
| deinit | Debug only |
| CompInbyte | The total number of incoming (received) compressed bytes. |
| CompOutbytes | The total number of outgoing (sent) compressed bytes. |
| DeCompInbytes | The total number of incoming (received) decompressed bytes. |
| DeCompOutbyte | The total number of outgoing (sent) decompressed bytes. |
| Compr ratio | Debug only |

show session summary

Table 518: show session summary Command Output Descriptions

| Field | Description |
|--------------------|--|
| 4G LTE (EUTRAN) | The number of sessions using 4G LTE access technology (P-GW, S-GW). |
| 2G (GERAN) | The number of sessions using 2G GERAN access technology (GGSN, P-GW/S-GW, S4 SGSN). |
| 3G (UTRAN) | The number of sessions using 3G UTRAN access technology (GGSN, P-GW/S-GW, S4 SGSN). |
| WiFi (WIRELSS LAN) | The number of sessions using WiFi access technology (P-GW, CGW). |
| eHRPD | The number of eHRPD (evolved High Rate Packet Data) sessions. |
| Others | The number of sessions using other access technologies. |
| Total sessions | The total number of sessions encompassing all access technologies. |
| Active | The total number of active sessions. |
| Dormant | The total number of dormant sessions. |
| pdsn-simple-ipv4 | The number of PDSN (Packet Data Serving Node) Simple IPv4 sessions. |
| pdsn-simple-ipv6 | The number of PDSN Simple 6 sessions. |
| pdsn-mobile-ip | The number of PDSN Mobile IPv4 sessions. |
| ha-mobile-ipv6 | The number of PDSN Mobile IPv6 sessions. |
| hsgw-ipv6 | The number of HSGW (HRPD Serving Gateway) IPv6 sessions. |
| hsgw-ipv4 | The number of HSGW IPv4 sessions. |
| hsgw-ipv4-ipv6 | The number of HSGW IPv4-IPv6 sessions. |
| pgw-pmip-ipv6 | The number of P-GW (Packet Data Network-Gateway) PMIPv6 (Proxy Mobile IPv6) sessions |
| pgw-pmip-ipv4 | The number of P-GW PMIP IPv4 sessions |
| pgw-pmip-ipv4-ipv6 | The number of P-GW PMIP IPv4-IPv6 sessions |
| pgw-gtp-ipv6 | The number of P-GW GTP (GPRS Tunneling Protocol) IPv6 sessions. |

| Field | Description |
|----------------------|--|
| pgw-gtp-ipv4 | The number of P-GW GTP IPv4 sessions. |
| pgw-gtp-ipv4-ipv6 | The number of P-GW GTP IPv4-IPv6 sessions. |
| sgw-gtp-ipv6 | The number of S-GW (Serving Gateway) GTP IPv6 sessions. |
| sgw-gtp-ipv4 | The number of S-GW GTP IPv4 sessions. |
| sgw-gtp-ipv4-ipv6 | The number of S-GW GTP IPv4-IPv6 sessions. |
| sgw-pmip-ipv6 | The number of S-GW PMIPv6 sessions. |
| sgw-pmip-ipv4 | The number of S-GW PMIP (IPv4) sessions. |
| sgw-pmip-ipv4-ipv6 | The number of S-GW PMIP (IPv4-IPv6) sessions. |
| pgw-gtps2b-ipv4 | The number of GTP S2b IPv4 sessions. |
| pgw-gtps2b-ipv6 | The number of GTP S2b IPv6 sessions. |
| pgw-gtps2b-ipv4-ipv6 | The number of GTP S2b IPv4-IPv6 sessions. |
| mme | The number of MME (Mobility Management Entity) sessions. |
| ipsg-rad-snoop | The number of IPSG (IP Services Gateway) RADIUS snoop sessions. |
| ipsg-rad-server | The number of IPSG RADIUS server sessions. |
| ha-mobile-ip | The number of HA (Home Agent) Mobile IP sessions. |
| ggsn-pdp-type-ppp | The number of GGSN (Gateway GPRS Serving Node) PDP (Packet Data Protocol) type PPP (Point-to-Point Protocol) sessions. |
| ggsn-pdp-type-ipv4 | The number of GGSN PDP type IPv4 sessions. |
| lns-l2tp | The number of LNS (L2TP Network Server) L2TP (Layer 2 Tunneling Protocol) sessions. |

show session trace statistics

Table 519: show session trace statistics Command Output Descriptions

| Field | Description |
|----------------------------------|--|
| Network Element Status | Specifies if session traces are enabled for the listed network elements. |
| Number of current trace sessions | The total number of session traces currently active. |

| Field | Description |
|--|---|
| Total trace sessions activated | The total number of session traces activated. |
| Total number of trace session activation failures | The total number of session activation failures. |
| Total number of trace recording sessions triggered | The total number of trace recording sessions triggered |
| Total number of messages traced | The total number of messages traced for the activated session traces. |
| Number of messages dropped | |
| No memory | The total number of messages dropped due to a no memory condition. |
| No trace recording session | The total number of messages dropped due to a failure to receive the start trigger. |
| Interface not traced | The total number of messages dropped due to the messages being received on interfaces not part of the trace interface list. |
| Total number of file generated | The total number of session trace files generated. |
| Number of Cell Traffic Trace files generated | The total number of Cell Traffic trace files generated. |
| Number of files deleted | |
| No space | The total number of files deleted due to a lack of space on the storage device. |
| TCE Timeout | The total number of files deleted due to a Trace Collection Entity timeout. |
| Number of Cell Traffic Trace files deleted | |
| No space | The total number of Cell Traffic Trace files deleted due to a lack of space on the storage device. |
| TCE Timeout | The total number of Cell Traffic Trace files deleted due to a Trace Collection Entity timeout. |
| Number of current TCE connections | The total number of trace collection entity connections currently configured. |
| Total number of TCE connections | The total number of trace collection entity connections configured. |
| Total number of files uploaded to all TCEs | The total number of files uploaded to all trace collection entities. |

show session trace subscriber

The full command is as follows:

```
show session trace subscriber network-element <type> trace-ref <id>
```

Table 520: show session trace subscriber Command Output Descriptions

| Field | Description |
|--|--|
| Trace reference | The trace reference ID for the trace displayed. The ID is the MCC (3 digits), followed by the MNC (3 digits), then the trace ID number (3 byte octet string). |
| Activation time | The date and time when the trace was initiated. |
| IMEI or IMSI | The subscriber identification. <ul style="list-style-type: none"> • IMEI: The International Mobile Equipment Identification number of the subscriber's UE. • IMSI: The International Mobile Subscriber Identification (IMSI) which is the 3-digit MCC (Mobile Country Code), 2 or 3-digit MNC (Mobile Network Code), and the MSIN (Mobile Subscriber Identification Number). |
| Actively Tracing | Specifies if the trace is currently active. |
| Trace Recording Session Reference | The current active trace recording session reference number. |
| Recording start time | The date and time when the session trace recording started. |
| Total number of trace recording sessions triggered | The total number of trace recording sessions initiated. |
| Total number of messages traced | The total number of messages traced for this trace reference. |
| Number of messages dropped | |
| No memory | The total number of messages dropped due to a no memory condition. |
| No trace recording session | The total number of messages dropped due to a failure to receive the start trigger. |
| Interface not traced | The total number of messages dropped due to the messages being received on interfaces not part of the trace interface list. |
| Total number of files created | The total number of trace recording files created. |
| Number of files deleted | |
| No space | The total number of files deleted due to a lack of space on the storage device. |
| Traced Interfaces | List of interfaces configured for the session trace. |
| Trace Triggers | Identifies the triggers used by this subscriber. |



CHAPTER 125

show sgsn-operator-policy

This chapter describes the output of the **show sgsn-operator-policy** command.

- [show sgsn-operator-policy full { all | name }, on page 1983](#)

show sgsn-operator-policy full { all | name }

This command displays the configuration for a specifically named SGSN operator policy or for all of them.

Table 521: show sgsn-operator-policy full all Command Output Descriptions

| Field | Description |
|---|---|
| GPRS Attach All | Indicates whether GRPS attaches are to be allowed. |
| GPRS Attach All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS Attach All | Indicates whether UMTS attaches are to be allowed. |
| UMTS Attach All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS RAU Intra All | Indicates whether RAU Intra are to be allowed. |
| GPRS RAU Intra All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS RAU Intra All | Indicates whether RAU Intra are to be allowed. |
| UMTS RAU Intra All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS RAU Inter All | Indicates whether RAU Inter are to be allowed. |
| GPRS RAU Inter All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS RAU Inter All | Indicates whether RAU Inter are to be allowed. |
| UMTS RAU Inter All Failure Code | Indicates configured failure code to be sent in reject message. |
| Failure Code For Peer Sgsn Address Resolution Failure | Indicates configured failure code to be sent in reject message. |
| GPRS SMS MO All | Indicates whether |

show sgsn-operator-policy full { all | name }

| Field | Description |
|---|---|
| GPRS SMS MO All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS SMS MO All | |
| UMTS SMS MO All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS SMS MT All | |
| GPRS SMS MT All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS SMS MT All | |
| UMTS SMS MT All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS Primary PDP Context Activation All | |
| GPRS Secondary PDP Context Activation All | |
| GPRS PDP Context Activation All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS Primary PDP Context Activation All | |
| UMTS Secondary PDP Context Activation All | |
| UMTS PDP Context Activation All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS Nw Init Primary PDP Context Activation All | |
| GPRS Nw Init Primary PDP Ctxt Activation All Failure Code | Indicates configured failure code to be sent in reject message. |
| GPRS Nw Init Secondary PDP Ctxt Activation All | |
| GPRS Nw Init Secondary PDP Ctxt Activation All Failure Code | |
| UMTS Nw Init Primary PDP Context Activation All | |
| UMTS Nw Init Primary PDP Ctxt Activation All Failure Code | Indicates configured failure code to be sent in reject message. |
| UMTS Nw Init Secondary PDP Ctxt Activation All | |
| UMTS Nw Init Secondary PDP Ctxt Activation All Failure Code | Indicates configured failure code to be sent in reject message. |
| SRNS Intra All | |
| SRNS Intra All Failure Code | Indicates configured failure code to be sent in reject message. |
| SRNS Inter All | |
| SRNS Inter All Failure Code | Indicates configured failure code to be sent in reject message. |
| Authentication All-Events | Indicates if feature has been enabled or disabled. |
| Authentication Attach | Indicates if feature has been enabled or disabled. |
| Authentication Attach (Gprs only) | Indicates if feature has been enabled or disabled. |

| Field | Description |
|---|--|
| Authentication Attach (Combined) | Indicates if feature has been enabled or disabled. |
| Authentication Activate | Indicates if feature has been enabled or disabled. |
| Authentication Service Request | Indicates if feature has been enabled or disabled. |
| Authentication Service Request (Signaling) | Indicates if feature has been enabled or disabled. |
| Authentication Service Request (Data) | Indicates if feature has been enabled or disabled. |
| Authentication Service Request (Page Response) | Indicates if feature has been enabled or disabled. |
| Authentication RAU | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Periodic) | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Ra update) | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Ra update with Local Ptmsi) | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Ra update with Foreign Ptmsi) | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Combined Update) | Indicates if feature has been enabled or disabled. |
| Authentication RAU (Imsi Combined Update) | Indicates if feature has been enabled or disabled. |
| Authentication Detach | Indicates if feature has been enabled or disabled. |
| Usage of Auth Vectors From Old Sgsn | Indicates if feature has been enabled or disabled. |
| Order of Preference for Integrity Algorithm is | |
| Order of Preference for Encryption Algorithm is | |
| PTMSI-signature allocation | |
| PTMSI-Realloc Attach | |
| PTMSI-Realloc Interval | |
| PTMSI-Realloc Frequency | |
| PTMSI-Realloc RAU | |
| PTMSI-Realloc RAU (Periodic) | |
| PTMSI-Realloc RAU (Periodic) Frequency value | |
| PTMSI-Realloc RAU (Ra-Update) | |
| PTMSI-Realloc RAU (Ra-Update) Frequency | |
| PTMSI-Realloc RAU (Combined-Update) | |
| PTMSI-Realloc RAU (Combined-Update) Frequency | |

show sgsn-operator-policy full { all | name }

| Field | Description |
|---|--|
| PTMSI-Realloc RAU (Combined-Update with IMSI attach) | |
| PTMSI-Realloc RAU (Combined-Update with IMSI) Frequency | |
| PTMSI-Realloc Service Request (Signalling) | |
| PTMSI-Realloc Service Request (Signalling) Freq | |
| PTMSI-Realloc Service Request (Data) | |
| PTMSI-Realloc Service Request (Data) Freq | |
| PTMSI-Realloc Service Request (Page Response) | Indicates if feature has been enabled or disabled. |
| PTMSI-Realloc Service Request (Page Response) Freq | Indicates frequency, if configured. |
| Inactivity detection for establishing pdp contexts | Indicates if feature has been enabled or disabled. |
| Inactivity detection for establishing pdp contexts - Timer | Indicates timeout value in milliseconds. |
| Inactivity detection for establishing pdp contexts - Action | Indicates action to be taken. |
| Monitor Re-attaches after Inactivity Detach | Indicates if feature has been enabled or disabled. |
| Charging Characteristics Prefer Local | Indicates if feature has been enabled or disabled. |
| Charging Characteristics Behavior | |
| Charging Characteristics Profile-Index | Indicates CC profile index. |
| Charging Characteristics Behavior No Records | Indicates configured CC behavior. |
| APN restriction | |
| Wildcard APN for IPv4 | |
| Wildcard APN for IPv6 | |
| Wildcard APN for PPP | |
| UMTS Gmm-Information | Indicates if feature has been enabled or disabled. |
| GPRS Gmm-Information | Indicates if feature has been enabled or disabled. |
| User Equipment Identity Retrieval | Indicates if feature has been enabled or disabled. |
| Nri bits length | |
| Nri bits value | |
| MAP UGL Message. Include Access Type Private Extension | |
| MAP UGL Message. Include IMEISV | |
| Reuse of authentication triplets | Indicates if feature has been enabled or disabled. |

| Field | Description |
|--|--|
| Re-Authentication | Indicates if feature has been enabled or disabled. |
| Direct Tunnel | |
| GTPU Fast Path | Indicates if feature has been enabled or disabled. |
| Sending Radio Access Technology (RAT) IE | Indicates if feature has been enabled or disabled. |
| Sending User Location Information (ULI) IE | Indicates if feature has been enabled or disabled. |
| Sending IMEISV IE | Indicates if feature has been enabled or disabled. |
| Sending MS Time Zone IE | Indicates if feature has been enabled or disabled. |

show sgsn-operator-policy full { all | name }



CHAPTER 126

show sgsn-service

This chapter describes the output of the **show sgsn-service** command.

- [sgsn-mode](#), on page 1989
- [show sgsn-service all](#), on page 1989

sgsn-mode

Table 522: show sgsn-mode Command Output Descriptions

| Field | Description |
|---|--|
| Extended Coverage Enhanced GPRS (EC-EGPRS/EC-GSM) | Specifies if Extended Coverage Class Support is enabled on the SGSN. |

show sgsn-service all

Table 523: show sgsn-service all Command Output Descriptions

| Field | Description |
|-------------------------|--|
| Service name | The SGSN service that is running in this session. |
| Context | The name of the context in which SGSN service is running. |
| Status | Status of the SGSN service. |
| Accounting Context Name | The name of the context in which accounting interface is configured for this SGSN service. |
| SGSN Number | The number of SGSN system in current network. |
| Network-sharing | Specifies whether network sharing is enabled or disabled. |
| Nri bits | Specifies whether network resource identifier (NRI) bit is configured or not in this SGSN service. |

| Field | Description |
|-----------------------------|---|
| SGTP Context | The name of the context in which SGTP service is running. |
| SGTP Service | The SGTP service that is running the SGTP session in this SGSN service. |
| MAP Context | The name of the context in which mobile application part (MAP) service, configured in this SGSN service, is running. |
| MAP Service | The service that is running the MAP session in this SGSN service. |
| HSS Service | The name of the configured home subscriber service (HSS) that is running the HSS session in this SGSN service. |
| IuPS Context | The name of the context in which UMTS Packet Switch Iu interface (IuPS) service is running. |
| IuPS Service | The service that is running the IuPS session. |
| SM-T3385 Timeout | The time-out duration in seconds for GPRS session management timer - T3385 on network side for PDP context activation. |
| SM-T3386 Timeout | The time-out duration in seconds for GPRS session management timer - T3386 on network side for PDP context modification. |
| SM-T3395 Timeout | The time-out duration in seconds for GPRS session management timer - T3395 on network side for PDP context deactivation. |
| SM-Max Activate Retries | Total number of retries for PDP context activation from GPRS session manager. |
| SM-Max Modify Retries | Total number of retries for PDP context modification from GPRS session manager. |
| SM-Max Deactivate Retries | Total number of retries for PDP context deactivation from GPRS session manager. |
| GMM-T3302 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3302 on MS side for GPRS attach procedure or RAU procedure. |
| GMM-T3322 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3322 on network side for GPRS detach request procedure. |
| GMM-T3350 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3350 on network side GPRS attach accept/RAU accept/REALLOC request procedure sent with P-TMSI and/or TMSI. |
| GMM-Mobil-Reachable Timeout | The time-out duration in seconds for GPRS mobility management timer - Mobile Reachable on network side. |
| GMM-Implicit-Detach Timeout | The time-out duration in seconds for GPRS mobility management timer - Implicit-Detach on network side. |

| Field | Description |
|--|--|
| GMM-Purge Timeout | The time-out duration in seconds for GPRS mobility management timer - Purge to hold the detach of MM context on network side. |
| GMM-T3313 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for paging procedure initiation. |
| GMM-Max Page Retries | Maximum number of retries for paging procedure from GPRS mobility manager. |
| GMM-T3312 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for RAU procedure initiation. |
| GMM-T3370 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3370 on network side for identity request procedure. |
| GMM-Max Identity Retries | Maximum number of retries for identity request procedure from GPRS mobility manager. |
| GMM-T3360 Timeout | The time-out duration in seconds for GPRS mobility management timer - T3360 on network side for Authentication and Cipher request procedure. |
| GMM-Max Auth Retries | Maximum number of retries for authentication request procedure from GPRS mobility manager. |
| GMM-Max PTMSI RELOC Retries | Maximum number of retries for Packet-Temporary Mobile Subscriber Identity (P-TMSI) relocation procedure from GPRS mobility manager. |
| GMM-Perform-Identity-After-Auth | Specifies whether "perform identity after authentication" procedure is enabled or not. |
| Max simultaneous pdp contexts per MS | Maximum number of simultaneous PDP context allowed on one MS. |
| SUPER CHARGER | Specifies whether "super charger" feature is enabled or not. |
| Accounting cdr-types | Specifies type of accounting CDRs configured in this SGSN service. |
| Charging Characteristics (CC) Profiles | This group provides the charging characteristics profiles configured in this SGSN service. |
| Profile | Specifies the charging characteristic profile configured in this SGSN service. |
| Bucket | Specifies the charging bucket configured for charging characteristic in this SGSN service. |
| Network Global MME ID Mgmt DB | Indicates if a network global MME ID management database ID is associated with this SGSN service. This ID is used for GUTI to RAI mapping of networks with LACs for UTRAN and GERAN coverage in the 32768 - 65535 range. |

| Field | Description |
|--|--|
| TAI Management Database | Indicates if a Tracking Area Identifier (TAI) Management database is associated with this SGSN service. |
| Inform RNC before UE during QoS Modification | Specifies if operator has enabled or disabled the SGSN functionality to inform RNC before UE during QoS modification. |
| Restrict Bitrate to 16 Mbps when UE 3GPP Compliance is Unknown | Indicates whether or not the option to restrict bitrate to "16" Mbps when the UEs 3GPP compliance is not known has been configured. |
| MCC/MNC Encoding in DNS for RAI FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for RAI FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in SNAPTR Query . |
| MCC/MNC Encoding in DNS for APN FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for APN FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for RNC FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for RNC FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for MMEC FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for MMEC FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in SNAPTR Query. |
| MCC/MNC Encoding in DNS for TAI FQDN in A/AAAA Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in A/AAAA Query. |
| MCC/MNC Encoding in DNS for TAI FQDN in SNAPTR Query | Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in SNAPTR Query. |
| Check IMEI | Displays configuration indicating SGSN action if EIR routing is down: <ul style="list-style-type: none"> • Gf Timeout Action • Gf Failure Action Value options are 'Continue' or 'Reject'; Default for both is 'Reject'. |
| Accounting cdr-types | Indicates CDR types to be used. Options include: mcdcr, scdr, sms, lcs, smbmscdr |
| Charging Characteristics(CC) Profiles | Indicates bucket configuration per profile. |

| Field | Description |
|--|--|
| Sgsn NRI Length | Indicates configured NRI length for the SGSN service. Default is 6. |
| NRI(s) that will be used in NON-POOLED area | Displays the list of NRIs used in the Non-Pooled area. |
| Sgsn NRI value | Displays the NRI value and also indicates the status of offloading for each NRI. |
| NRI(s) that will be used in POOLED area | Displays the list of NRIs used in the Pooled area. |
| NRI(s) that will be used in POOLED & NON-POOLED area | Displays the list of NRIs used in the Non-Pooled and Pooled areas. |
| Ignore ASI bit received from peer SGSN during RAU | Indicates if this function has been enabled or disabled. |



CHAPTER 127

show sgs-service

This chapter describes the output of the **show sgs-service** command.

- [show sgs-service offload-status service-name](#), on page 1995
- [show sgs-service statistics all](#), on page 1995
- [show sgs-service vlr-status full](#), on page 1998

show sgs-service offload-status service-name

Displays statistics for all VLRs flagged for offload for the specified SGs service.

Table 524: show sgs-service offload-status service-name Command Output Descriptions

| Field | Description |
|-------------------------------------|--|
| VLR Name | The VLR name as configured in the SGs service. |
| VLR Offload | Displays if the VLR is configured/marked for offload. |
| Offload Marked Subscriber Count | The number of subscribers that have yet to be offloaded. |
| Total Attached Attached Subscribers | The total number of subscribers to be offloaded. |

show sgs-service statistics all

Displays SGs service statistics for all SGs services configured on the system.

Table 525: show sgs-service statistics all Command Output Descriptions

| Field | Description |
|------------------------|---|
| SCTP Statistics | |
| Transmitted SCTP Data | |
| Init Chunks | The total number of initial chunks transmitted by this service. |
| Init Ack Chunks | The total number of initial ack chunks transmitted by this service. |
| Shutdown Chunks | The total number of shutdown chunks transmitted by this service. |

| Field | Description |
|--------------------------|---|
| Cookie Chunks | The total number of cookie chunks transmitted by this service. |
| Data Chunks | The total number of chunks transmitted by this service. |
| Data Ack Chunks | The total number of data ack chunks transmitted by this service. |
| Shutdown Complete Chunks | The total number of shutdown complete chunks transmitted by this service. |
| Heartbeat Chunks | The total number of heartbeat chunks transmitted by this service. |
| HeartBeat Ack Chunks | The total number of heartbeat ack chunks transmitted by this service. |
| Abort Chunks | The total number of abort chunks transmitted by this service. |
| Error Chunks | The total number of error chunks transmitted by this service. |
| Init Chunks | The total number of initial chunks received by this service. |
| Init Ack Chunks | The total number of initial ack chunks received by this service. |
| Shutdown Chunks | The total number of shutdown chunks received by this service. |
| Cookie Chunks | The total number of cookie chunks received by this service. |
| Data Chunks | The total number of chunks received by this service. |
| Data Ack Chunks | The total number of data ack chunks received by this service. |
| Shutdown Complete Chunks | The total number of shutdown complete chunks received by this service. |
| Heartbeat Chunks | The total number of heartbeat chunks received by this service. |
| HeartBeat Ack Chunks | The total number of heartbeat ack chunks received by this service. |
| Abort Chunks | The total number of abort chunks received by this service. |
| Error Chunks | The total number of error chunks received by this service. |
| Init Chunks | The total number of initial chunks retransmitted by this service. |
| Total Bytes Sent | The total number of SCTP bytes sent by this service. |
| Total Bytes Received | The total number of SCTP bytes received by this service. |
| Total Packets Sent | The total number of SCTP packets sent by this service. |
| Total Packets Received | The total number of SCTP packets received by this service. |
| SGS-AP Statistics | |
| SGS-AP Data | |
| Tx | The total number of messages transmitted by this service for the associated message type. |
| ReTx | The total number of messages retransmitted by this service for the associated message type. |

| Field | Description |
|----------------------------|---|
| Rx | The total number of messages received by this service for the associated message type. |
| Paging Request | The total number of paging request messages. |
| Paging Reject | The total number of paging reject messages. |
| Service Request | The total number of service request messages. |
| Downlink Unitdata | The total number of downlink unit data messages. |
| Uplink Unitdata | The total number of uplink unit data messages. |
| Location Update Request | The total number of Location Update Request messages. |
| Location Update Accept | The total number of Location Update Accept messages. |
| Location Update Reject | The total number of Location Update Reject messages. |
| Location Update Timeout | The total number of Location Update Request messages not received from HSS/MSC due to ts6-1 timeout. Note that only the Rx counter will increment. Tx and ReTx counters are not supported. |
| TMSI Reallocation Complete | The total number of TMSI reallocation complete messages. |
| Alert Request | The total number of alert request messages. |
| Alert Ack | The total number of alert ack messages. |
| Alert Reject | The total number of alert reject messages. |
| UE Activity Indication | The total number of UE activity indication messages. |
| EPS Detach Indication | The total number of EPS detach indication messages. |
| EPS Detach Ack | The total number of EPS detach ack messages. |
| IMSI Detach Indication | The total number of IMSI detach indication messages. |
| IMSI Detach Ack | The total number of IMSI detach ack messages. |
| Reset Indication | The total number of reset indication messages. |
| Reset Ack | The total number of reset ack messages. |
| MM Information Request | The total number of MM information request messages. |
| Release Request | The total number of release request messages. |
| Status | The total number of status messages. |
| UE Unreachable | The total number of UE unreachable messages. |
| Service Abort Request | The total number of SgsAP-SERVICE-ABORT-REQUEST messages. |
| Unknown MSG | The total number of unknown messages. |

show sgs-service vlr-status full

Table 526: show sgs-service vlr-status Command Output Descriptions

| Field | Description |
|----------------------|--|
| MMEMGR | The MME manager instance where the SGs service is running. |
| MME Reset | A system-wide parameter which is set to "Yes" when the MME service (and SGS service) is up or after the MME restarts after a failure. This is a restoration indicator at MME service. |
| Service ID | The system generated identification number of the SGs service. |
| Peer ID | The system generated identification number of the VLR's SCTP connection. |
| VLR Name | The VLR name as configured in the SGs service. |
| SGS Service Name | The configured SGs service name. |
| VLR Offload | Displays if the VLR is configured/marked for offload state. |
| SGS Service Address | The IP address of the interface to which the SGs service is bound. |
| SGS Service Port | The port number of the interface to which the SGs service is bound. |
| VLR IP Address (es) | The VLR IP address as configured in the SGs service. If multi-homing is configured, both addresses will be shown. The path status for each is displayed as either UP or DOWN. |
| VLR Port | The VLR port number as configured in the SGs service. |
| Assoc State | The current state of the SCTP association, either UP or DOWN. |
| Assoc Uptime | The total amount of time (hours minutes seconds) the current SCTP association has been active (up). The format of Assoc UpTime is 0000d00h00m (where d= day, h=hour, m=minutes) when h > =24 hrs, otherwise it will be displayed as 00h00m00s. |
| Assoc State Up Count | The total number of times the SCTP association has come up. |

| Field | Description |
|------------------------------------|---|
| VLR Failure Detach | <p>Indicates if the sgs vlr-failure Exec Mode command is enabled (Yes) or disabled (No).</p> <p>Detach Count: The total number of subscribers that have already been detached as a result of the sgs vlr-failure command.</p> <p>Total: Indicates the total number of subscribers that have to be detached.</p> <p>Note: This field is not displayed when the vlr-recover Config Mode command is enabled.</p> |
| SGs Service Configured VLR Failure | <p>Indicates if the SGs service vlr-recover Config Mode command is enabled (Yes) or disabled (No).</p> <p>Detach Count: The total number of subscribers that have already been detached as a result of the SGs Service VLR Failure feature.</p> <p>Total: Indicates the total number of subscribers that have to be detached.</p> <p>Note: This field is only displayed when the SGs Service VLR Failure feature has been configured.</p> |
| VLR Recover Detach | <p>Indicates if the sgs vlr-recover Exec Mode command is enabled (Yes) or disabled (No).</p> <p>Detach Count: The total number of subscribers that have already been detached as a result of the sgs vlr-recover command.</p> <p>Total: Indicates the total number of subscribers that have to be detached.</p> |
| SGS-AP Statistics | |
| Tx | The total number of messages transmitted by this service for the associated message type. |
| ReTx | The total number of messages retransmitted by this service for the associated message type. |
| Rx | The total number of messages received by this service for the associated message type. |
| Paging Request | The total number of paging request messages. |
| Paging Reject | The total number of paging reject messages. |
| Service Request | The total number of service request messages. |
| Downlink Unitdata | The total number of downlink unit data messages. |
| Uplink Unitdata | The total number of uplink unit data messages. |
| Location Update Request | The total number of Location Update Request messages. |
| Location Update Accept | The total number of Location Update Accept messages. |
| Location Update Reject | The total number of Location Update Reject messages. |

| Field | Description |
|--|---|
| Location Update Timeout | The total number of Location Update Request messages not received from HSS/MSC due to ts6-1 timeout. Note that only the Rx counter will increment. Tx and ReTx counters are not supported. |
| TMSI Reallocation Complete | The total number of TMSI reallocation complete messages. |
| Alert Request | The total number of alert request messages. |
| Alert Ack | The total number of alert ack messages. |
| Alert Reject | The total number of alert reject messages. |
| UE Activity Indication | The total number of UE activity indication messages. |
| EPS Detach Indication | The total number of EPS detach indication messages. |
| EPS Detach Ack | The total number of EPS detach ack messages. |
| IMSI Detach Indication | The total number of IMSI detach indication messages. |
| IMSI Detach Ack | The total number of IMSI detach ack messages. |
| Reset Indication | This statistic has been deprecated. |
| Reset Ack | This statistic has been deprecated. |
| MM Information Request | The total number of MM information request messages. |
| Release Request | The total number of release request messages. |
| Status | The total number of status messages. |
| UE Unreachable | The total number of UE unreachable messages. |
| Service Abort Request | The total number of SGsAP-SERVICE-ABORT-REQUEST messages. |
| Unknown MSG | The total number of unknown messages. |
| Flow debug stats for VLR address index : | |
| <i>Each of the following statistics is only displayed if the stat's value is non-zero. These stats are typically used for debugging.</i> | |
| NPU Flow created for Primary IPA | The total number of NPU Flow created for Primary IPA. |
| NPU Flow created for Secondary IPA | The total number of NPU Flow created for Secondary IPA. |
| Primary IPA flow add requests sent | The total number of Primary IPA flow add requests sent. |
| Secondary IPA flow add requests sent | The total number of Secondary IPA flow add requests sent. |
| Primary IPA flow add success received | The total number of Primary IPA flow add success received. |
| Secondary IPA flow add success received | The total number of Secondary IPA flow add success received. |
| Primary IPA flow add failed | The total number of Primary IPA flow add failed. |
| Secondary IPA flow add failed | The total number of Secondary IPA flow add failed. |

| Field | Description |
|---|--|
| Primary IPA flow alloc failed | The total number of Primary IPA flow alloc failed. |
| Secondary IPA flow alloc failed | The total number of Secondary IPA flow alloc failed . |
| Primary IPA flow insert failed | The total number of Primary IPA flow insert failed. |
| Secondary IPA flow insert failed | The total number of Secondary IPA flow insert failed. |
| Primary IPA flow delete requests sent | The total number of Primary IPA flow delete requests sent. |
| Secondary IPA flow delete requests sent | The total number of Secondary IPA flow delete requests sent. |
| Primary IPA flow delete success | The total number of Primary IPA flow delete success. |
| Secondary IPA flow delete success | The total number of Secondary IPA flow delete success . |
| Primary IPA flow delete failed | The total number of Primary IPA flow delete failed . |
| Secondary IPA flow delete failed | The total number of Secondary IPA flow delete failed. |
| Primary IPA flow delete no match | The total number of Primary IPA flow delete no match. |
| Secondary IPA flow delete no match | The total number of Secondary IPA flow delete no match. |
| Primary IPA invalid flowid | The total number of Primary IPA invalid flowid. |
| Secondary IPA invalid flowid | The total number of Secondary IPA invalid flowid. |
| Primary IPA invalid NPU response | The total number of Primary IPA invalid NPU response. |
| Secondary IPA invalid NPU response | The total number of Secondary IPA invalid NPU response. |
| Max per VLR associations reached | The total number of Max per VLR associations reached . |
| Invalid NPU response codes | The total number of Invalid NPU response codes . |
| Primary IPA flow resp code[%s] count | The total number of Primary IPA flow resp code[%s] count. |
| Secondary IPA flow resp code[%s] count | The total number of Secondary IPA flow resp code[%s] count. |
| Total VLRs | The total number of VLRs configured in the SGs service. |



CHAPTER 128

show sgtp

This chapter describes the outputs of the **show sgtp** command.

- [show sgtp-service ggsn-table](#), on page 2003
- [show sgtp-service sgsn-table](#), on page 2004

show sgtp-service ggsn-table

Table 527: show sgtp-service ggsn-table Command Output Descriptions

| Field | Description |
|-----------|--|
| GTP | Indicates the GTP version. Possible values are: <ul style="list-style-type: none"> • 0: GTP-v0 • 1: GTP-v1 |
| Status | Indicates the status of the GTP session. Possible values are: <ul style="list-style-type: none"> • I: Inactive • A: Active |
| GTPC Echo | Indicates the status of the GTPC echo. Possible values are: <ul style="list-style-type: none"> • D: Disabled • E: Enabled |
| PLMN Type | Indicates the type of Public Land Mobile Network area. Possible values are: <ul style="list-style-type: none"> • H: Home networks • F: Foreign networks • U: Unknown networks |

| Field | Description |
|-----------------|---|
| SGTPC Stats | Indicates the availability of the SGTPC statistics. Possible values are: <ul style="list-style-type: none"> • A: Available • U: Unavailable |
| Service ID | Indicates the SGTP service identifier. |
| GGSN Address | Indicates the IP address of GGSN service. |
| Restart Counter | Indicates the restart counter of SGTP service. |
| No. of restart | Indicates the total number of restarts happened for SGTP session. |
| Curr sessions | Total number of SGTP session currently running. |
| Max sessions | Indicates the maximum number of SGTP session allowed. |

show sgtp-service sgsn-table

Table 528: show sgtp-service sgsn-table Command Output Descriptions

| Field | Description |
|-------------|--|
| GTP | Indicates the GTP version. Possible values are: <ul style="list-style-type: none"> • 0: GTP-v0 • 1: GTP-v1 |
| GTPC Echo | Indicates the status of the GTPC echo. Possible values are: <ul style="list-style-type: none"> • D: Disabled • E: Enabled |
| PLMN Type | Indicates the type of Public Land Mobile Network area. Possible values are: <ul style="list-style-type: none"> • H: Home networks • F: Foreign networks • U: Unknown networks |
| SGTPC Stats | Indicates the availability of the SGTPC statistics. Possible values are: <ul style="list-style-type: none"> • A: Available • U: Unavailable |

| Field | Description |
|--------------|---|
| Service ID | Indicates the SGTP service identifier. |
| SGSN Address | Indicates the IP address of SGSN service. |



CHAPTER 129

show sgtpc

This chapter describes the outputs of the **show sgtpc** command.

- [show sgtpc statistics, on page 2007](#)

show sgtpc statistics

Table 529: show sgtpc statistics Command Output Descriptions

| Field | Description |
|-------------------------------------|---|
| Tunnel Management Messages: | |
| Create PDP Context Request: | |
| Total Primary CPC Req | The total number of Create PDP Context requests received for the primary PDP context. |
| Total Secondary CPC Req | The total number of Create PDP Context requests received for the secondary PDP context. |
| Initial Primary CPC Req | The total number of initial Create PDP Context requests received for the primary PDP context. |
| Initial Secondary CPC Req | The total number of initial secondary Create PDP Context requests received for the secondary PDP context. |
| Retrans Primary CPC Req | The total number of Create PDP Context requests retransmitted for the primary PDP context. |
| Retrans Secondary CPC Req | The total number of Create PDP Context requests retransmitted for the secondary PDP context. |
| Create PDP Context Response: | |
| Total Accepted | The total number of Create PDP Context response messages accepted. |
| Total Denied | The total number of Create PDP Context response messages denied. |

| Field | Description |
|-------------------------------------|---|
| Total Primary CPC | The total number of Create PDP Context response messages transmitted for the primary PDP context. |
| Total Secondary CPC | The total number of Create PDP Context response messages transmitted for the secondary PDP context. |
| Decode Failure RX | The total number of Create PDP Context response messages received with decode failure. |
| Update PDP Context Request | |
| Total UPC Req TX | The total number of Update PDP Context request messages transmitted. |
| Total UPC Req RX | The total number of Update PDP Context request messages received. |
| Initial UPC Req TX | The total number of initial Update PDP Context request messages transmitted. |
| Initial UPC Req RX | The total number of initial Update PDP Context request messages received. |
| Retrans UPC Req TX | The total number of tunnel-retransmitted Update PDP Context request messages transmitted. |
| Retrans UPC Req RX | The total number of tunnel-retransmitted Update PDP Context request messages received. |
| Update PDP Context Response: | |
| Total UPC Rsp TX | The total number of Update PDP Context response messages transmitted. |
| Total UPC Rsp RX | The total number of Update PDP Context response messages received. |
| Denied TX | The total number of denied Update PDP Context response messages transmitted. |
| Denied RX | The total number of denied Update PDP Context response messages received. |
| Accepted TX | The total number of accepted Update PDP Context response messages transmitted. |
| Accepted RX | The total number of accepted Update PDP Context response messages received. |
| Initial UPC-Rsp TX | The total number of initial Update PDP Context response messages transmitted. |
| Initial UPC-Rsp RX | The total number of initial Update PDP Context response messages received. |
| Retrans UPC-Rsp TX | The total number of tunnel-retransmitted Update PDP Context response messages transmitted. |

| Field | Description |
|-------------------------------------|---|
| Decode Failure RX | |
| Delete PDP Context Request: | |
| Total DPC Req TX | The total number of Delete PDP Context request messages transmitted. |
| Total DPC Req RX | The total number of Delete PDP Context request messages received. |
| Initial DPC Req TX | The total number of initial Delete PDP Context request messages transmitted. |
| Initial DPC Req RX | The total number of initial Delete PDP Context request messages received. |
| Retrans DPC Req TX | The total number of tunnel-retransmitted Delete PDP Context request messages transmitted. |
| Delete PDP Context Response: | |
| Total DPC Rsp TX | The total number of Delete PDP Context response messages transmitted. |
| Total DPC Rsp RX | The total number of Delete PDP Context response messages received. |
| Denied TX | The total number of denied Delete PDP Context response messages transmitted. |
| Denied RX | The total number of denied Delete PDP Context response messages received. |
| Accepted TX | The total number of accepted Delete PDP Context response messages transmitted. |
| Accepted RX | The total number of accepted Delete PDP Context response messages received. |
| Initial DPC-Rsp TX | The total number of initial Delete PDP Context response messages transmitted. |
| Initial DPC-Rsp RX | The total number of initial Delete PDP Context response messages received. |
| Retrans DPC-Rsp TX | The total number of tunnel-retransmitted Delete PDP Context response messages transmitted. |
| Decode Failure RX | |
| PDU Notification Request: | |
| Total Primary PDU Not Req | The total number of PDU notification request messages received but not requested for the primary PDP context. |
| Total Secondary PDU Not Req | The total number of PDU notification request messages received but not requested for the secondary PDP context. |

| Field | Description |
|---|--|
| Initial Primary PDU Not Req | The total number of initial PDU notification request messages received but not requested for the primary PDP context. |
| Initial Secondary PDU Not Req | The total number of initial PDU notification request messages received but not requested for the secondary PDP context. |
| Retrans Primary PDU Not Req | The total number of tunnel-retransmitted PDU notification request messages received but not requested for the primary PDP context. |
| Retrans Secondary PDU Not Req | The total number of tunnel-retransmitted PDU notification request messages received but not requested for the secondary PDP context. |
| PDU Notification Response: | |
| Total Accepted | The total number of PDU notification response messages accepted. |
| Total Denied | The total number of PDU notification response messages denied. |
| Acc. Primary PDU Not Rsp | |
| Initial PDU Not Rsp | |
| Retrans Pri PDU Not Rsp | |
| Acc. Secondary PDU Not Rsp | |
| Initial PDU Not Rsp | |
| Retrans Secondary PDU Not Rsp | |
| PDU Notification Rej Request: | |
| Total PDU Not Rej Req | |
| Initial PDU Not Rej Req | |
| Retrans PDU Not Rej Req | |
| PDU Notification Rej Response: | |
| Total PDU Not Rej Rsp | |
| Denied | |
| Accepted | |
| Initial PDU Not Rej Rsp | |
| Initiate PDP Context Activation Request | This group of counters indicates the number of IPCA Requests received from GGSN. |
| Total IPCA Req | Total number of Initiate PDP Context Activation Request messages received from GGSN. |

| Field | Description |
|---|---|
| Initial IPCA Req | Total number of initial Initiate PDP Context Activation Request messages received from GGSN. |
| Retrans IPCA Req | Total number of retransmitted Initiate PDP Context Activation Request messages received from GGSN. |
| Initiate PDP Context Activation Response | This group of counters indicates the number of IPCA Responses sent to GGSN. |
| Total Accepted | Total number of Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN. |
| Initial IPCA Rsp | Total number of initial Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN. |
| Retrans IPCA Rsp | Total number of retransmitted Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN. When SGSN receives a retransmitted IPCA Req after it has sent IPCA Rsp with cause Accepted, it responds by sending the same IPCA Rsp and increments this counter. |
| Total Denied | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause other than Accepted |
| Initial IPCA Rsp | Total number of initial Initiate PDP Context Activation Response messages with cause other than Accepted sent to GGSN. |
| Retrans IPCA Rsp | Total number of retransmitted Initiate PDP Context Activation Response messages sent to GGSN. When SGSN receives a retransmitted IPCA Req after it has sent IPCA Rsp with cause other than Accepted, it responds by sending the same IPCA Rsp and increments this counter. |
| Initiate PDP Context Activation Response Not Sent | This group of counters indicates the number of IPCA Responses not sent to GGSN. Normally, IPCA Response is sent for each received IPCA Request from GGSN. For the following two cases, IPCA Response is not sent to GGSN. (verbose mode only) |
| Retrans IPCA Req bef MS rsp | Total number of IPCA Response messages not sent due to reception of retransmitted IPCA Req during NRSPCA procedure and MS has not responded with Activate Secondary PDP Context Request. Such retransmitted requests are dropped/ignored. |
| Linked PDP deact coll | Total number of IPCA Response messages not sent due to linked PDP deactivation collision with NRSPCA procedure. |
| Initiate PDP Context Activation Denied | This group of counters indicates the number of IPCA Response messages with failure causes sent to GGSN. (verbose mode only) |
| No resources | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "no resources available (199)". |

| Field | Description |
|-------------------------------------|--|
| Service Not Supported | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "service not supported (200)". |
| System Failure | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "system failure (204)". |
| Mandatory IE incorrect | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "mandatory IE incorrect (201)". |
| Mandatory IE missing | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "mandatory IE missing (202)". |
| Optional IE incorrect | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "optional IE incorrect (203)". |
| Invalid message format | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "invalid message format (193)". |
| Context not found | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "Context not found (210)". |
| Semantic Error in TFT | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "semantic error in TFT operation (215)". |
| Syntactic Error in TFT | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "syntactic error in TFT operation (216)". |
| Semantic Error in Pkt Filter | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "semantic error in PKT filter (217)". |
| Syntactic Error in Pkt Filter | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "syntactic error in PKT filter (218)". |
| MS is not GPRS responding | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "MS is not GPRS responding (196)". |
| MS refuses | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "MS refuses (197)". |
| Invalid correlation-Id | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "invalid correlation Id (225)". |
| PDP Ctxt without TFT already Active | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "PDP Ctx without TFT already activated (221)". |

| Field | Description |
|--------------------------------------|--|
| BCM violation | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "Bearer Control Mode violation (227)". |
| MS GPRS Suspended | Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "GPRS Connection Suspended (207)". |
| Unknown cause | Total number of Initiate PDP Context Activation Response messages sent to GGSN with any other cause than mentioned above. |
| Mobility Management Messages: | |
| Identification Request: | |
| Total Ident-Req TX | The total number of identification request messages transmitted. |
| Total Ident-Req RX | The total number of identification request messages received. |
| Initial Ident-Req TX | The total number of initial identification request messages transmitted. |
| Initial Ident-Req RX | The total number of initial identification request messages received. |
| Retrans Ident-Req TX | |
| Identification Response: | |
| Total Ident-Rsp TX | The total number of identification response messages transmitted. |
| Denied TX | |
| Accepted TX | |
| Initial Ident-Rsp TX | |
| Retrans Ident-Rsp TX | |
| Total Ident-Rsp RX | The total number of identification response messages received. |
| Denied RX | |
| Accepted RX | |
| Initial Ident-Rsp RX | |
| Decode Failure RX | |
| SGSN Context Request: | |
| Total SGSN-Ctx-Req TX | The total number of SGSN Context Request messages sent on the Gn/Gp interface. |

| Field | Description |
|-------------------------------|--|
| Total SGSN-Ctx-Req RX | The total number of SGSN Context Request messages received on the Gn/Gp interface. |
| Initial SGSN-Ctx-Req TX | The number of initial SGSN Context Request messages sent on the Gn/Gp interface. |
| Initial SGSN-Ctx-Req RX | The number of initial SGSN Context Request messages received on the Gn/Gp interface. |
| Retrans SGSN-Ctx-Req TX | The number of SGSN Context Request messages retransmitted on the Gn/Gp interface. |
| Retrans SGSN-Ctx-Req RX | The number of SGSN Context Request messages received on the Gn/Gp interface. |
| SGSN Context Response: | |
| Total SGSN-Ctx-Rsp TX | The total number of SGSN Context response messages transmitted on the Gn/Gp interface. |
| Denied TX | |
| Accepted TX | |
| Initial SGSN-Ctx-Rsp TX | |
| Retrans SGSN-Ctx-Rsp TX | |
| Total SGSN-Ctx-Rsp RX | The total number of SGSN Context response messages received on the Gn/Gp interface. |
| Denied RX | |
| Accepted RX | |
| Initial SGSN-Ctx-Rsp RX | |
| Retrans SGSN-Ctx-Rsp RX | |
| Decode Failure RX | |
| SGSN Context Ack: | |
| Total SGSN-Ctx-Ack TX | The total number of SGSN Context Acknowledgement response messages transmitted on the Gn/Gp interface. |
| Denied TX | |
| Accepted TX | |
| Initial SGSN-Ctx-Ack TX | |
| Retrans SGSN-Ctx-Ack TX | |
| Total SGSN-Ctx-Ack RX | The total number of SGSN Context Acknowledgement response messages received on the Gn/Gp interface. |

| Field | Description |
|-------------------------------------|--|
| Denied RX | |
| Accepted RX | |
| Initial SGSN-Ctx-Ack RX | |
| Retrans SGSN-Ctx-Ack RX | |
| Decode Failure RX | |
| Forward Relocation Request: | |
| Total Fwd-Rel-Req TX | The total number of Forward Relocation request messages transmitted. |
| Total Fwd-Rel-Req RX | The total number of Forward Relocation request messages received. |
| Initial Fwd-Rel-Req TX | The total number of initial Forward Relocation request messages transmitted. |
| Initial Fwd-Rel-Req RX | The total number of initial Forward Relocation request messages received. |
| Retrans Fwd-Rel-Req TX | |
| Retrans Fwd-Rel-Req RX | |
| Forward Relocation Response: | |
| Total Fwd-Rel-Rsp TX | The total number of Forward Relocation response messages transmitted. |
| Denied TX | |
| Accepted TX | |
| Initial Fwd-Rel-Rsp TX | |
| Retrans Fwd-Rel-Rsp TX | |
| Total Fwd-Rel-Rsp RX | The total number of Forward Relocation response messages received. |
| Denied RX | |
| Accepted RX | |
| Initial Fwd-Rel-Rsp RX | |
| Decode Failure RX | |
| Forward SRNS Context: | |
| Total Fwd-SRNS-Ctx TX | The total number of Forward Serving Radio Network Subsystem (SRNS) Context request messages transmitted. |

| Field | Description |
|---|--|
| Total Fwd-SRNS-Ctx RX | The total number of Forward Serving Radio Network Subsystem (SRNS) Context request messages received. |
| Initial Fwd-SRNS-Ctx TX | |
| Initial Fwd-SRNS-Ctx RX | |
| Retrans Fwd-SRNS-Ctx TX | |
| Retrans Fwd-SRNS-Ctx RX | |
| Forward SRNS Context Ack: | |
| Total SRNS-Ctx-Ack TX | The total number of Forward Serving Radio Network Subsystem (SRNS) Context Acknowledgement messages transmitted. |
| Denied TX | |
| Accepted TX | |
| Initial SRNS-Ctx-Ack TX | |
| Retrans SRNS-Ctx-Ack TX | |
| Total SRNS-Ctx-Ack RX | The total number of Forward Serving Radio Network Subsystem (SRNS) Context Acknowledgement messages received. |
| Denied RX | |
| Accepted RX | |
| Initial SRNS-Ctx-Ack RX | |
| Decode Failure RX | |
| Forward Relocation Complete: | |
| Total Fwd-Rel-Cmp TX | The total number of Forward Relocation Complete messages transmitted. |
| Total Fwd-Rel-Cmp RX | The total number of Forward Relocation Complete messages received. |
| Initial Fwd-Rel-Cmp TX | |
| Initial Fwd-Rel-Cmp RX | |
| Retrans Fwd-Rel-Cmp TX | |
| Retrans Fwd-Rel-Cmp RX | |
| Forward Relocation Complete Ack: | |
| Total Rel-Cmp-Ack TX | The total number of Relocation Complete Acknowledgement messages transmitted. |

| Field | Description |
|------------------------------------|--|
| Denied TX | |
| Accepted TX | |
| Initial Rel-Cmp-Ack TX | |
| Retrans SRNS-Ctx-Ack TX | |
| Total Rel-Cmp-Ack RX | The total number of Relocation Complete Acknowledgement messages received. |
| Denied RX | |
| Accepted RX | |
| Initial Rel-Cmp-Ack RX | |
| Decode Failure RX | |
| Relocation Cancel Request: | |
| Total Rel-Can-Req TX | The total number of Relocation Cancel request messages transmitted. |
| Total Rel-Can-Req RX | The total number of Relocation Cancel request messages received. |
| Initial Rel-Can-Req TX | |
| Initial Rel-Can-Req RX | |
| Retrans Rel-Can-Req TX | |
| Retrans Rel-Can-Req RX | |
| Relocation Cancel Response: | |
| Total Rel-Can-Rsp TX | The total number of Relocation Cancel response messages transmitted. |
| Denied TX | |
| Accepted TX | |
| Initial Rel-Can-Rsp TX | |
| Retrans Rel-Can-Rsp TX | |
| Total Rel-Can-Rsp RX | The total number of Relocation Cancel response messages received. |
| Denied RX | |
| Accepted RX | |
| Initial Rel-Can-Rsp RX | |

| Field | Description |
|--------------------------------------|---|
| Decode Failure RX | |
| Path Management Messages: | |
| Echo Request: | |
| Total Echo-Req TX | The total number of Echo request messages transmitted. |
| Total Echo-Req RX | The total number of Echo request messages received. |
| Initial Echo-Req TX | The total number of initial Echo request messages transmitted. |
| Initial Echo-Req RX | The total number of initial Echo request messages received. |
| Retrans Echo-Req TX | The total number of Echo request messages retransmitted. |
| Echo Response: | |
| Total Echo-Rsp TX | The total number of Echo response messages transmitted. |
| Total Echo-Rsp RX | The total number of Echo response messages received. |
| Version Not Supported | The total number of Echo messages received and transmitted with GTP version not supported. |
| RX | The total number of Echo messages received with GTP version not supported. |
| TX | The total number of Echo messages transmitted with GTP version not supported. |
| Supported Ext. Headers Notif | The total number of Echo messages received and transmitted with supported extension headers notification. |
| RX | The total number of Echo messages received with supported extension headers notification. |
| TX | The total number of Echo messages transmitted with supported extension headers notification. |
| Location Management Messages: | |
| Send Routing Info Request: | |
| Total SRI-Req | The total number of Send Routing Information (SRI) request messages transmitted to the HLR(s). |
| Initial SRI-Req | The total number of initial Send Routing Information (SRI) request messages transmitted to the HLR(s). |
| Retrans SRI-Req | The total number of Send Routing Information (SRI) request messages retransmitted to the HLR(s). |
| Send Routing Info Response: | |

| Field | Description |
|---------------------------------------|---|
| Total SRI-Rsp | The total number of Send Routing Information (SRI) response messages transmitted to the HLR(s). |
| Denied | The total number of initial Send Routing Information (SRI) response messages transmitted to the HLR(s). |
| Accepted | The total number of Send Routing Information (SRI) response messages retransmitted to the HLR(s). |
| Initial SRI-Rsp | |
| Retrans SRI-Rsp | |
| Failure Report Request: | |
| Total Fail-Rpt-Req | The total number of fail report request messages transmitted. |
| Initial Fail-Rpt-Req | The total number of initial fail report request messages transmitted. |
| Retrans Fail-Rpt-Req | The total number of fail report request messages retransmitted. |
| Failure Report Response: | |
| Total Fail-Rpt-Rsp | The total number of fail report response messages transmitted. |
| Denied | |
| Accepted | |
| Initial Fail-Rpt-Rsp | The total number of initial fail report response messages transmitted. |
| Retrans Fail-Rpt-Rsp | The total number of fail report response messages retransmitted. |
| Note Ms Gprs Present Request: | |
| Total Note-Ms-Gprs-Req | The total number of Note MS GPRS Present request messages received from the HLR(s). |
| Initial Note-Ms-Gprs-Req | The total number of initial Note MS GPRS Present request messages received from the HLR(s). |
| Retrans Note-Ms-Gprs-Req | The total number of Note MS GPRS Present request messages retransmitted. |
| Note Ms Gprs Present Response: | |
| Total Note-Ms-Gprs-Rsp | The total number of Note MS GPRS Present response messages transmitted to the HLR(s). |
| Denied | The total number of "deny" Note MS GPRS Present response messages transmitted to the HLR(s). |
| Accepted | The total number of Note MS GPRS Present response messages transmitted to the HLR(s) containing a cause value of 128 (80H, Request accepted). |

| Field | Description |
|---|--|
| Initial Note-Ms-Gprs-Rsp | |
| Decode Failure | |
| MS Info Change Notification Request: | |
| Total MICN-Req | |
| Initial MICN-Req | |
| Retrans MICN-Req | |
| MS Info Change Notification Response: | |
| Total MICN-Rsp | |
| Denied | |
| Dropped | |
| Accepted | |
| MBMS Bearer Service specific Messages: This group lists statistics related to Multimedia Broadcast Multicast Service (MBMS) bearer messages. | |
| MBMS Session Start Request: | |
| Total Sess-Start-Req | The total number of MBMS Session Start request messages transmitted. |
| Initial Sess-Start-Req | The total number of initial MBMS Session Start request messages transmitted. |
| Retrans Sess-Start-Req | The total number of MBMS Session Start request messages retransmitted. |
| MBMS Session Start Response: | |
| Total Sess-Start-Rsp | The total number of MBMS Session Start response messages received. |
| Denied | The total number of MBMS Session Start response messages denied. |
| Accepted | The total number of MBMS Session Start response messages accepted. |
| Initial Sess-Start-Rsp | The total number of initial MBMS Session Start response messages received. |
| Retrans Sess-Start-Rsp | The total number of MBMS Session Start response messages retransmitted. |
| MBMS Session Stop Request: | |

| Field | Description |
|--------------------------------------|--|
| Total Sess-Stop-Req | The total number of MBMS Session Stop request messages transmitted. |
| Initial Sess-Stop-Req | The total number of MBMS Session Start request messages transmitted. |
| Retrans Sess-Stop-Req | The total number of MBMS Session Start request messages transmitted. |
| MBMS Session Stop Response: | |
| Total Sess-Stop-Rsp | The total number of MBMS Session Stop response messages transmitted. |
| Denied | The total number of MBMS Session Stop response messages denied. |
| Accepted | The total number of MBMS Session Stop response messages accepted. |
| Initial Sess-Stop-Rsp | The total number of initial MBMS Session Stop response messages transmitted. |
| Retrans Sess-Stop-Rsp | The total number of MBMS Session Stop response messages retransmitted. |
| MBMS Session Update Request: | |
| Total Sess-Update-Req | The total number of MBMS Session Update request messages transmitted. |
| Initial Sess-Update-Req | The total number of initial MBMS Session Update request messages transmitted. |
| Retrans Sess-Update-Req | The total number of MBMS Session Update request messages retransmitted. |
| MBMS Session Update Response: | |
| Total Sess-Update-Rsp | The total number of MBMS Session Update response messages transmitted. |
| Denied | The total number of MBMS Session Update response messages denied. |
| Accepted | The total number of MBMS Session Update response messages accepted. |
| Initial Sess-Update-Rsp | The total number of initial MBMS Session Update response messages transmitted. |
| Retrans Sess-Update-Rsp | The total number of MBMS Session Update response messages retransmitted. |
| MBMS Registration Request: | |
| Total Reg-Req TX | The total number of MBMS Registration request messages transmitted. |

| Field | Description |
|---------------------------------------|---|
| Initial Reg-Req TX | The total number of initial MBMS Registration request messages transmitted. |
| Retrans Reg-Req TX | The total number of MBMS Registration request messages retransmitted. |
| MBMS Registration Response: | |
| Total Reg-Rsp RX | The total number of MBMS Registration response messages received. |
| Denied RX | The total number of MBMS Registration response messages denied. |
| Accepted RX | The total number of MBMS Registration response messages accepted. |
| Initial Reg-Rsp RX | The total number of initial MBMS Registration response messages received. |
| Decode Failure RX | The total number of MBMS Registration response messages received with a decode failure. |
| MBMS De-Registration Request: | |
| Total De-Reg-Req TX | The total number of MBMS De-Registration request messages transmitted. |
| Total De-Reg-Req RX | The total number of MBMS De-Registration request messages received. |
| Initial De-Reg-Req TX | The total number of initial MBMS De-Registration request messages transmitted. |
| Initial De-Reg-Req RX | The total number of initial MBMS De-Registration request messages received. |
| Retrans De-Reg-Req TX | The total number of retransmitted MBMS De-Registration request messages transmitted. |
| Retrans De-Reg-Req RX | The total number of retransmitted MBMS De-Registration request messages received. |
| MBMS De-Registration Response: | |
| Total De-Reg-Rsp TX | |
| Total De-Reg-Rsp RX | |
| Denied TX | |
| Denied RX | |
| Accepted TX | |
| Accepted RX | |

| Field | Description |
|---|--|
| Initial De-Reg-Rsp TX | |
| Initial De-Reg-Rsp RX | |
| Retrans De-Reg-Rsp TX | |
| Decode Failure RX | |
| Path Failure Statistics: | |
| Number of Path Failures due to Echo Request Timeout | |
| Number of Deactivations due to Echo Request Timeout | |
| Number of Path Failures due to Non Echo Request Timeout | |
| Number of Deactivations due to Non Echo Request Time | |
| Number of Path Failures due to Restart Counter Change in Echo Response | |
| Number of Restart Counter Changes verified using Echo Response | |
| Number of Restart Counter Changes in Echo Response | |
| Number of Path Failures due to Restart Counter Change in Non Echo Response | |
| Number of Deactivations due to Restart Counter Change | |
| Number of Incorrect Path Failures detected by Session Manager | |
| MBMS UE specific Messages: This group lists statistics related to Multimedia Broadcast Multicast Service (MBMS) UE messages. | |
| MBMS Notification Request: | |
| Total MBMS-Not-Req RX | The total number of MBMS notification request messages received. |
| Initial MBMS-Not-Req RX | The total number of initial MBMS notification request messages received. |
| Retrans MBMS-Not-Req RX | The total number of retransmitted MBMS notification request messages received. |
| MBMS Notification Response: | |
| Total MBMS-Not-Rsp TX | The total number of MBMS notification response messages transmitted. |
| Denied TX | |
| Accepted TX | |

| Field | Description |
|---|---|
| Initial MBMS-Not-Rsp TX | The total number of initial MBMS notification response messages transmitted. |
| Retrans MBMS-Not-Rsp TX | The total number of retransmitted MBMS notification response messages transmitted. |
| MBMS Notification Reject Request: | |
| Total MBMS-Not-Rej-Req TX | |
| Initial MBMS-Not-Rej-Req TX | |
| Retrans MBMS-Not-Rej-Req TX | |
| MBMS Notification Reject Response: | |
| Total MBMS-Not-Rej-Rsp RX | |
| Denied RX | |
| Accepted RX | |
| Initial MBMS-Not-Rej-Rsp | |
| Decode Failure RX | |
| Create MBMS Context Request: | |
| Total CMC-Req TX | The total number of Create MBMS Context request messages transmitted. |
| Initial CMC-Req TX | The total number of initial Create MBMS Context request messages transmitted. |
| Retrans CMC-Req TX | The total number of retransmitted Create MBMS Context request messages transmitted. |
| Create MBMS Context Response: | |
| Total CMC-Rsp RX | |
| Denied RX | |
| Accepted RX | |
| Initial CMC-Rsp RX | |
| Decode Failure RX | |
| Update MBMS Context Request: | |
| Total UMC-Req TX | The total number of Update MBMS Context request messages transmitted. |
| Initial UMC-Req TX | The total number of initial Update MBMS Context request messages transmitted. |

| Field | Description |
|--------------------------------------|---|
| Retrans UMC-Req TX | The total number of retransmitted Update MBMS Context request messages transmitted. |
| Update MBMS Context Response: | |
| Total UMC-Rsp RX | |
| Denied RX | |
| Accepted RX | |
| Initial UMC-Rsp RX | |
| Decode Failure RX | |
| Delete MBMS Context Request: | |
| Total DMC-Req TX | |
| Total DMC-Req RX | |
| Initial DMC-Req TX | |
| Initial DMC-Req RX | |
| Retrans DMC-Req TX | |
| Retrans DMC-Req RX | |
| Delete MBMS Context Response: | |
| Total DMC-Rsp TX | |
| Total DMC-Rsp RX | |
| Denied TX | |
| Denied RX | |
| Accepted TX | |
| Accepted RX | |
| Initial DMC-Rsp TX | |
| Initial DMC-Rsp RX | |
| Decode Failure RX | |
| RAN info Relay Msg: | |
| Total messages received | The total number of RAN Information Relay (RIM) messages received. |

| Field | Description |
|-----------------------------|--|
| Total messages sent | The total number of RAN Information Relay (RIM) messages transmitted. |
| Total messages dropped | The total number of RAN Information Relay (RIM) messages dropped. |
| due to DNS failure | The total number of RAN Information Relay (RIM) messages dropped due to a DNS failure. |
| due to RIM disabled in SGSN | The total number of RAN Information Relay (RIM) messages dropped due to lack of support by the SGSN. |
| due to Invalid Routing Addr | The total number of RAN Information Relay (RIM) messages dropped due to an invalid routing address. |



CHAPTER 130

show sgtpu

This chapter describes the outputs of the **show sgtpu** command.

- [show sgtpu statistics, on page 2027](#)

show sgtpu statistics

Table 530: show sgtpu statistics Command Output Descriptions

| Field | Description |
|-------------------------|--|
| GTPU Statistics: | |
| Total Packets Sent | |
| Packets sent to GGSN | Total number of packets for GTP-U messages sent to GGSN. |
| Packets sent to RNC | Total number of packets for GTP-U messages sent to RNC. |
| Packets sent to SGSN | Total number of packets for GTP-U messages sent to SGSN. |
| Total Bytes Sent | |
| Bytes sent to GGSN | Total number of bytes for GTP-U messages sent to GGSN at a given instance of time. |
| Bytes sent to RNC | Total number of bytes for GTP-U messages sent to the RNC at a given instance in time. |
| Bytes sent to SGSN | Total number of bytes for GTP-U messages sent to the SGSN at a given instance in time. |
| Total Packets Rcvd | |
| Total Packets from GGSN | Total number of packets for GTP-U messages received from GGSN. |
| Pkts queued | Total number of packets queued for GTP-U messages from GGSN. |

| Field | Description |
|-------------------------|---|
| Pkts forward from queue | <p>Description: This proprietary statistic indicates the total number of packets that are forwarded from the GGSN queue.</p> <p>Triggers: Increments when a packet is forwarded from the GGSN queue.</p> <p>Availability: per SGTP service</p> |
| Pkts dropped | Total number of packets dropped for GTP-U messages from GGSN. |
| Queue Full | Total number of packets dropped due to queued buffer limit full for GTP-U messages from GGSN. |
| Ctxt Preserved | Total number of GTP packets from GGSN dropped in preserved context. |
| Unknown session | Total number of GTP packets from GGSN dropped in unknown session. |
| Pkts when dp suspended | <p>Description: This proprietary statistic indicates the total number of packets dropped because of DP session in suspended state.</p> <p>Triggers: Increments when a DP session has deactivation initiated or path failure is detected for the PDP context.</p> <p>Availability: per SGTP service</p> |
| Sess Dealloc started | Total number of GTP packets from peer GGSN received during session deallocation procedure. |
| Paging Failure | Total number of GTP packets dropped due to paging failure when there was downlink data from GGSN. |
| Seq Num Not Pres(V0) | Total number of packets from GGSN dropped as GTP-Uv0 messages received with sequence number flag set to false. |
| Unknown version | Total number of GTP-U packets received from GGSN with unknown GTP version. |
| Invalid msg length | Total number of GTP packets from GGSN dropped as GTP-U messages received with invalid message length. |
| Traffic Policing | Total number of GTP-U packets received from GGSN under subscriber traffic policing support. |
| Iu Release | <p>Description: Total number of downlink packets that were queued but dropped due to IU/RAB release.</p> <p>Triggers: Counter at the new SGSN increments when Iu/RAB gets released while inter-SGSN-RAU is in progress and downlink data is queued during RAU.</p> <p>Availability: per SGTP service</p> |

| Field | Description |
|--------------------------|---|
| T3-tunnel Timer expiry | <p>Description: Total number of downlink packets that were queued but dropped due to T3-tunnel timer expiry during inter-SGSN RAU procedure.</p> <p>Triggers: During inter-SGSN RAU at the old SGSN, neither Cancel Location or SGSN Context Ack are received when t3-tunnel timer is fired causing the RAU procedure to abort. If old RABs are not available, the data queued during the RAU will be dropped.</p> <p>Availability: per SGTP service</p> |
| BVC Reset/Block Rcvd | <p>Description: This proprietary statistic indicates the total number of packets that are dropped from the GGSN queue, because of BVC Block or BVC Reset messages received for the MM context.</p> <p>Triggers: Increments when a packet is dropped from the GGSN queue because of BVC Reset/BVC Block received for the MM context.</p> <p>Availability: per SGTP service</p> |
| Total Bytes Rcvd | |
| Total Bytes from SGSN | Total number of bytes for GTP-U messages received from GGSN. |
| Bytes queued | Total number of bytes queued for GTP-U messages from GGSN. |
| Bytes forward from queue | <p>Description: This proprietary statistic indicates the total number of bytes that are forwarded from the GGSN queue.</p> <p>Triggers: Increments when a byte is forwarded from the GGSN queue.</p> <p>Availability: per SGTP service</p> |
| Bytes dropped | Total number of bytes dropped for GTP-U messages from GGSN. |
| Queue Full | Total number of bytes dropped due to queued buffer limit full for GTP-U messages from GGSN. |
| Ctxt Preserved | Total number of GTP bytes from GGSN dropped in preserved context. |
| Unknown session | Total number of GTP bytes from GGSN dropped in unknown session. |
| Pkts when dp suspended | <p>Description: This proprietary statistic indicates the total number of bytes dropped because of DP session in suspended state.</p> <p>Triggers: Increments when a DP session has deactivation initiated or path failure is detected for the PDP context.</p> <p>Availability: per SGTP service</p> |

| Field | Description |
|------------------------|---|
| Sess Dealloc started | Total number of GTP bytes from peer GGSN received during session deallocation procedure. |
| Paging Failure | Total number of GTP bytes dropped due to paging failure when there was downlink data from GGSN. |
| Seq Num Not Pres(V0) | Total number of bytes from GGSN dropped as GTP-Uv0 messages received with sequence number flag set to false. |
| Unknown version | Total number of GTP-U bytes received from GGSN with unknown GTP version. |
| Invalid msg length | Total number of GTP bytes from GGSN dropped as GTP-U messages received with invalid message length. |
| Traffic Policing | Total number of GTP-U bytes received from GGSN under subscriber traffic policing support. |
| Iu Release | <p>Description: Total number of downlink bytes that were queued but dropped due to IU/RAB release.</p> <p>Triggers: Counter at the new SGSN increments when Iu/RAB gets released while inter-SGSN-RAU is in progress and downlink data is queued during RAU.</p> <p>Availability: per SGTP service</p> |
| T3-tunnel Timer expiry | <p>Description: Total number of downlink bytes that were queued but dropped due to T3-tunnel timer expiry during inter-SGSN RAU procedure.</p> <p>Triggers: During inter-SGSN RAU at the old SGSN, neither Cancel Location or SGSN Context Ack are received when t3-tunnel timer is fired causing the RAU procedure to abort. If old RABs are not available, the data queued during the RAU will be dropped.</p> <p>Availability: per SGTP service</p> |
| BVC Reset/Block Rcvd | <p>Description: This proprietary statistic indicates the total number of bytes that are dropped from the GGSN queue, because of BVC Block or BVC Reset messages received for the MM context.</p> <p>Triggers: Increments when a byte is dropped from the GGSN queue because of BVC Reset/BVC Block received for the MM context.</p> <p>Availability: per SGTP service</p> |
| Total Error Ind Sent | Indicates the total number of error indication messages sent to GGSN. |

| Field | Description |
|----------------------------|---|
| Sent to GGSN | <p>Description: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages sent to GGSN with error indication.</p> <p>Triggers: Increments when SGSN receives data packet from GGSN and no PDP context exists for this data packet on SGSN. In this case, SGSN sends error indications to GGSN.</p> <p>Availability: per GGSN</p> |
| Sent to RNC | <p>Description: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages sent to RNC with error indication.</p> <p>Triggers: Increments when SGSN receives data packet from RNC and no PDP context exists for this data packet on SGSN. In this case, SGSN sends error indications to RNC.</p> <p>Availability: per RNC</p> |
| Total Error Ind Rcvd | Indicates the total number of error indication messages received by SGSN. |
| Rcvd from GGSN | <p>Description: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages received by SGSN from GGSN with error indication.</p> <p>Triggers: Increments when SGSN receives error indication messages from GGSN.</p> <p>Availability: per GGSN</p> |
| Rcvd from RNC | <p>Description: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages received by SGSN from RNC with error indication.</p> <p>Triggers: Increments when SGSN receives error indication messages from RNC.</p> <p>Availability: per RNC</p> |
| Rcvd from GGSN through RNC | <p>Description: This proprietary counter indicates the total number of error indication messages from GGSN.</p> <p>If direct tunnel is enabled, data flows between RNC and GGSN. When the RNC receives GTPU-PDU from the GGSN for which no RAB context exists, RNC discards GTPU-PDU and returns error indication to GGSN. In order to notify SGSN, GGSN sends UPC request with EI Flag to SGSN.</p> <p>Triggers: Increments when SGSN receives error indication messages from GGSN through RNC.</p> <p>Availability: per GGSN</p> |

| Field | Description |
|----------------------------|--|
| Rcvd from RNC through GGSN | <p>Description: This proprietary counter indicates the total number of error indication messages from RNC.</p> <p>If direct tunnel is enabled, data flows between RNC and GGSN. GGSN sends Error indication to RNC, and in order to notify SGSN, RNC sends RAB Release Request with the error cause 'GTP Resources Unavailable'.</p> <p>Triggers: Increments when SGSN receives error indication messages from GGSN through RNC. This is when SGSN receives (Error indication message) Update PDP Context request with EI (Error Indication) flag from GGSN.</p> <p>Availability: per RNC</p> |



CHAPTER 131

show sgw

This chapter describes the output of the **show sgw** command.

- [show sgw-service all](#), on page 2033
- [show sgw-service statistics all verbose](#), on page 2035

show sgw-service all

Displays configuration information for all S-GW services configured on the system.

Table 531: show sgw-service all Command Output Descriptions

| Field | Description |
|----------------------|--|
| Service name | The name of the S-GW service. |
| Service-ID | The system generated identification number of the service. |
| Context | The context name where the service is located. |
| Accounting context | The context where the accounting configuration and or interfaces are configured. |
| Accounting mode | The accounting mode to be used for the S-GW service – GTTP (default), RADIUS/Diameter or none. |
| Status | The status of the service. |
| Egress Protocol | The egress protocol, such as "gtp-pmip" |
| Ingress EGTP service | The ingress eGTP service configured for this S-GW service. |
| Egress context | The egress context configured for this service. |
| Egress EGTP service | The egress eGTP service configured for this S-GW service. |
| Egress MAG service | The egress Mobile Access Gateway (MAG) service configured for this service. |
| IMS auth. service | The IMS authorization (IMSA) service used by this service for IMS subscribers. |

| Field | Description |
|---|--|
| Accounting policy | The name of the operator policy associated with accounting for this service. |
| Newcall policy | The newcall policy configured for this service. |
| S-GW Interface Excluded | Excludes the specified interface. |
| QCI-QoS mapping table | The QoS Class Index to QoS mapping table configured for use with this service. |
| GTPC Path Failure Handling | |
| S11-Interface | local-purge: The S-GW clears the affected bearer (or PDN if the path failure is received on a default bearer) locally without informing the peers. This is the default action for all interfaces. |
| S5-Interface | |
| S1U-Interface | signal-peer: The S-GW initiates control signalling towards the peer MME and P-GW. |
| S5U-Interface | |
| S4U-Interface | |
| S12-Interface | |
| GTPU Error Indication Handling | |
| S1U-Interface | local-purge: The S-GW clears the affected bearer (or PDN if the error indication is received on the default bearer) locally without informing the peers. |
| S5U-Interface | |
| S12-Interface | |
| S4U-Interface | page-ue: The S-GW moves the complete UE state to S1-Idle and starts paging for this UE. This is the default action for GTP-U error indication messages received on the S12 and S1-U interfaces. |
| Idle timeout | Indicates the time, in seconds configured for the SGW Session Idle Timer. Once configured, the Session Idle Timer will tear down those sessions that remain idle for longer than the configured time limit. |
| Idle timeout micro checkpoint periodicity | If configured, shows the ICSR micro checkpoint periodicity for idlesecs. This way the operators can configure this setting to a large value to suit their need to reduce the number of micro checkpoints on the srp link. If not configured, the default value Idle timeout of 10 seconds is used. |
| PLMN ID List | List of Public Land Mobile Network (PLMN) identifiers associated with the operator policy for this service. A PLMN ID consists of the Mobile Country Code (MCC) + Mobile network Code (MCC). |
| Subscriber Map Name | Name of the subscriber map associated with the operator policy for this service. |
| GTP-C Load Control Profile | Shows the name of the R12 Load Support profile, if configured. |

| Field | Description |
|--------------------------------|--|
| GTP-C Overload Control Profile | Shows the name of the R12 Overload Support profile, if configured. |

show sgw-service statistics all verbose

Table 532: show sgw-service statistics all Command Output Descriptions

| Field | Description |
|---------------------------------|---|
| Session Level Statistics | |
| Current | |
| UE | |
| Idle | The total number of UE sessions currently idle. |
| Idle-ISR | The total number of Idle-mode Signaling Reduction UE sessions currently idle. |
| Active | The total number of UE sessions currently active. |
| Active-ISR | The total number of Idle-mode Signaling Reduction UE sessions currently active. |
| PDN | |
| Home | The total number of current home PDN sessions. |
| Roaming | The total number of current roaming PDN sessions. |
| Visiting | The total number of current visiting PDN sessions. |
| Bearers | The total number of current Bearers. |
| Ind-Fwd-Tunnels | Indirect forward tunneling: The total number of current tunnels. |
| Ind-Fwd-Bearers | Indirect forward tunneling: The total number of current bearers. |
| Traffic Policing | |
| uplink pkts red | The total number of uplink packets marked red by the trTCM algorithm. |
| uplink bytes red | The total number of uplink bytes marked red by the trTCM algorithm. |
| uplink pkts yellow | The total number of uplink packets marked yellow by the trTCM algorithm. |

| Field | Description |
|--------------------------|---|
| uplink bytes yellow | The total number of uplink bytes marked yellow by the trTCM algorithm. |
| uplink pkts green | The total number of uplink packets marked green by the trTCM algorithm. |
| uplink bytes green | The total number of uplink bytes marked green by the trTCM algorithm. |
| uplink pkts dropped | The total number of uplink packets dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| uplink bytes dropped | The total number of uplink bytes dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| uplink pkts low ip prec | The total number of uplink packets that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| uplink bytes low ip prec | The total number of uplink bytes that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| uplink pkts transmitted | The total number of uplink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| uplink bytes transmitted | The total number of uplink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink pkts red | The total number of downlink packets marked red by the trTCM algorithm. |
| downlink bytes red | The total number of downlink bytes marked red by the trTCM algorithm. |
| downlink pkts yellow | The total number of downlink packets marked yellow by the trTCM algorithm. |
| downlink bytes yellow | The total number of downlink bytes marked yellow by the trTCM algorithm. |
| downlink pkts green | The total number of downlink packets marked green by the trTCM algorithm. |
| downlink bytes green | The total number of downlink bytes marked green by the trTCM algorithm. |

| Field | Description |
|---------------------------------|---|
| downlink pkts dropped | The total number of downlink packets dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink bytes dropped | The total number of downlink bytes dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink pkts low ip prec | The total number of downlink packets that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink bytes low ip prec | The total number of downlink bytes that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink pkts transmitted | The total number of downlink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| downlink bytes transmitted | The total number of downlink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR). |
| Setup | |
| UE | The total number of UE session set up. |
| PDN | The total number of PDN sessions set up. |
| Bearers | The total number of bearers set up. |
| PDNs Setup Per PDN-type | |
| IPv4 | The total number of PDN sessions set up using IPv4. |
| IPv6 | The total number of PDN sessions set up using IPv6. |
| IPv4v6 | The total number of PDN sessions set up using IPv4 in IPv6. |
| PDNs Setup Per Interface | |
| S11 | The total number of PDN sessions set up on an S11 interface. |
| S4 | The total number of PDN sessions set up on an S4 interface. |
| PDNs Setup Per S5 Proto | |
| GTP | The total number of PDN sessions set up using GTP tunneling. |
| PMIP | The total number of PDN sessions set up using PMIP tunneling. |

| Field | Description |
|-----------------------------|--|
| PDNs Released | |
| IPv4 | The total number of PDN sessions released using IPv4. |
| IPv6 | The total number of PDN sessions released using IPv6. |
| IPv4v6 | The total number of PDN sessions released using IPv4 in IPv6. |
| PDNs Released Reason | |
| MME Ini | The total number of PDN sessions released - initiated by the MME. |
| PGW Ini | The total number of PDN sessions released - initiated by the P-GW. |
| PCRF Ini | The total number of PDN sessions released - initiated by the PCRF. |
| S4 SGSN Ini | The total number of PDN sessions released - initiated by a Delete Session Request from an S4-SGSN. |
| Local | The total number of PDN sessions released - initiated locally. |
| S1 Error Ind | The total number of PDN sessions released due to an S1 interface error. |
| S5 Error Ind | The total number of PDN sessions released due to an S5 interface error. |
| Path Failure S11 | The total number of PDN sessions released due to an S11 path failure. |
| Path Failure S1-U | The total number of PDN sessions released due to an S1-U path failure. |
| Path Failure S5 | The total number of PDN sessions released due to an S5 path failure. |
| Path Failure S5-U | The total number of PDN sessions released due to an S5-U path failure. |
| Path Failure S4 | The total number of PDN sessions released due to an S4 path failure. |
| Path Failure S4-U | The total number of PDN sessions released due to an S4-U path failure. |
| Path Failure S12 | The total number of PDN sessions released due to an S12 path failure. |
| Other | The total number of PDN sessions released due to other reasons. |
| PDNs Rejected | |

| Field | Description |
|-----------------------------------|--|
| IPv4 | The total number of PDN sessions rejected using IPv4. |
| IPv6 | The total number of PDN sessions rejected using IPv6. |
| IPv4v6 | The total number of PDN sessions rejected using IPv4 in IPv6. |
| PDNs Rejected Reason | |
| PGW Ini | The total number of PDN sessions rejected - initiated by the P-GW. |
| License | The total number of PDN sessions rejected due to license reasons. |
| Newcall | The total number of PDN sessions rejected due to newcall reasons. |
| Overload | The total number of PDN sessions rejected due to overload reasons. |
| Congestion | The total number of PDN sessions rejected due to congestion reasons. |
| Other | The total number of PDN sessions rejected due to other reasons. |
| ISR Statistics | |
| Total ISR Activations | |
| MME | The total number of ISR activations by an MME. |
| S4-SGSN | The total number of ISR activations by an S4-SGSN. |
| Total ISR Deactivations | |
| MME | The total number of ISR deactivations by an MME. |
| S4-SGSN | The total number of ISR deactivations by an S4-SGSN. |
| Call Clear | The total number of ISR deactivations by a call clear. |
| Bearer Level Statistics | |
| Total EPS Bearers Setup | |
| QCI 1 - 9 | The total number of EPS bearers set up, with a QoS Class Index. |
| Non-Std QCI | The total number of EPS bearers set up, with a non-standard QoS Class Index. |
| Total EPS Bearers Released | |
| QCI 1 - 9 | The total number of EPS bearers released, with a QoS Class Index. |
| Non-Std QCI | The total number of EPS bearers released, with a non-standard QoS Class Index. |

| Field | Description |
|--|---|
| Total EPS Bearers Modified | |
| QCI 1 - 9 | The total number of EPS bearers modified, with a QoS Class Index. |
| Non-Std QCI | The total number of EPS bearers modified, with a non-standard QoS Class Index. |
| Dedicated Bearers Released Reason | |
| PGW Ini | The total number of dedicated bearers released - initiated by the P-GW. |
| PCRF Ini | The total number of dedicated bearers released - initiated by the PCRF. |
| S1 Error Ind | The total number of dedicated bearers released due to an S1 interface error. |
| S5 Error Ind | The total number of dedicated bearers released due to an S5 interface error. |
| S4-U Error Ind | The total number of dedicated bearers released due to an S4-U interface error. |
| S12 Error Ind | The total number of dedicated bearers released due to an S12 interface error. |
| Local | The total number of dedicated bearers released - initiated locally. |
| PDN Down | The total number of dedicated bearers released due to an inaccessible PDN. |
| Path Failure S1-U | The total number of dedicated bearers released due to an S1-U path failure. |
| Path Failure S5-U | The total number of dedicated bearers released due to an S5-U path failure. |
| Path Failure S4-U | The total number of dedicated bearers released due to an S4-U path failure. |
| Path Failure S12 | The total number of dedicated bearers released due to an S12U path failure. |
| Other | The total number of dedicated bearers released due to other reasons. |
| Bearers by QoS characteristics | |
| Active: QCI n | The number of active QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |

| Field | Description |
|---|--|
| Setup: QCI n | The number of QoS bearers setup with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Released: QCI n | The number of released QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Modified: QCI n | The number of modified QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Dedicated Bearers Released by Reason | |
| PGW Ini: QCI n | The number of bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70 that were released due to a P-GW initiated action. |
| PCRF Ini: | The number of bearers released due to a PCRF initiated action. |
| Non-Std QCI | The number of bearers released with a non-standard QCI value. |
| S1 Error Ind: QCI n | The number of bearers released with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70 due to an S1 error indication. |
| Non-Std QCI | The number of bearers with a non-standard QCI value released due to an S1 error indication. |
| S5 Error Ind: QCI n | The number of bearers released due to an S5 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non Std QCI | The number of bearers released due to an S5 error indication that had a non-standard QCI value. |
| S4 Error Ind: QCI n | The number of bearers released due to an S4 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-Std QCI | The number of bearers released due to an S4 error indication that had a non-standard QCI value. |
| S12 Error Ind: QCI n | The number of bearers released due to an S12 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-std QCI | The number of bearers with a non-standard QCI value released due to an S12 error indication. |
| Local: QCI n | The number of bearers released due to a local error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-std QCI | The number of bearers with a non-standard QCI value released due to a local error indication. |

| Field | Description |
|---------------------------|--|
| PDN Down: QCI | The number of bearers released due to a PDN down error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Non-std QCI | The number of bearers with a non-standard QCI value released due to a PDN down error indication. |
| Path Failure S1-U: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S1-U path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value that were released due to an S1-U path failure. |
| Path Failure S5-U: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S5-U path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value that were released due to an S5-U path failure. |
| Path Failure S5: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S5 path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value that were released due to an S5 path failure. |
| Path Failure S11: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S11 path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value released due to an S11 path failure. |
| Path Failure S4-U: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S4-U path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value released due to an S4-U path failure. |
| Path Failure S12: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S12 path failure. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value released due to an S12 path failure. |
| Inactivity Timeout: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an inactivity timeout. |

| Field | Description |
|--------------------------------------|---|
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value released due to an inactivity timeout. |
| Other: QCI n | The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due other reasons not specified above. |
| Non-std QCI | The total number of PDN sessions with a non-standard QCI value released due to other reasons not specified above. |
| Data Statistics Per Interface | |
| S1U Total Data Statistics | |
| Uplink | |
| Total Pkts | The total number of uplink packets over the S1-U interface. |
| Total Bytes | The total number of uplink bytes over the S1-U interface. |
| Dropped Pkts | The total number of dropped uplink packets over the S1-U interface. |
| Dropped Bytes | The total number of dropped uplink bytes over the S1-U interface. |
| Pkts QCI n | The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of uplink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of uplink bytes with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of uplink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped uplink packets with a QoS Class Index. |
| Dropped Pkts Non-Std QCI | The total number of dropped uplink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped uplink bytes with a non-standard QoS Class Index. |
| Non-Std QCI | The total number of uplink bytes dropped with a non-standard QoS Class Index. |
| Downlink | |

| Field | Description |
|-----------------------------------|--|
| Pkts | The total number of downlink packets over the S1-U interface. |
| Bytes | The total number of downlink bytes over the S1-U interface. |
| Dropped Pkts | The total number of dropped downlink packets over the S1-U interface. |
| Dropped Bytes | The total number of dropped downlink bytes over the S1-U interface. |
| Pkts QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of downlink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of downlink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped downlink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped downlink bytes with a non-standard QoS Class Index. |
| S4-U Total Data Statistics | |
| Uplink | |
| Pkts | The total number of uplink packets over the S4-U interface. |
| Bytes | The total number of uplink bytes over the S4-U interface. |
| Dropped Pkts | The total number of dropped uplink packets over the S4-U interface. |
| Dropped Bytes | The total number of dropped uplink bytes over the S4-U interface. |
| Pkts QCI n | The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of uplink packets with a non-standard QoS Class Index. |

| Field | Description |
|---------------------------|--|
| Bytes QCI n | The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of uplink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped uplink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped uplink bytes with a non-standard QoS Class Index. |
| Non-Std QCI | The total number of uplink bytes dropped with a non-standard QoS Class Index. |
| Downlink | |
| Pkts | The total number of downlink packets over the S4-U interface. |
| Bytes | The total number of downlink bytes over the S4-U interface. |
| Dropped Pkts | The total number of dropped downlink packets over the S4-U interface. |
| Dropped Bytes | The total number of dropped downlink bytes over the S4-U interface. |
| Pkts QCI n | The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of downlink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of downlink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped downlink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |

| Field | Description |
|----------------------------------|--|
| Dropped Bytes Non-Std QCI | The total number of dropped downlink bytes with a non-standard QoS Class Index. |
| S12 Total Data Statistics | |
| Uplink | |
| Pkts | The total number of uplink packets over the S12 interface. |
| Bytes | The total number of uplink bytes over the S12 interface. |
| Dropped Pkts | The total number of dropped uplink packets over the S12 interface. |
| Dropped Bytes | The total number of dropped uplink bytes over the S12 interface. |
| Pkts QCI n | The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of uplink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of uplink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped uplink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped uplink bytes with a non-standard QoS Class Index. |
| Non-Std QCI | The total number of uplink bytes dropped with a non-standard QoS Class Index. |
| Downlink | |
| Pkts | The total number of downlink packets over the S12 interface. |
| Bytes | The total number of downlink bytes over the S12 interface. |
| Dropped Pkts | The total number of dropped downlink packets over the S12 interface. |
| Dropped Bytes | The total number of dropped downlink bytes over the S12 interface. |

| Field | Description |
|-----------------------------------|--|
| Pkts QCI n | The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of downlink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of downlink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped downlink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped downlink bytes with a non-standard QoS Class Index. |
| S5-U Total Data Statistics | |
| Uplink | |
| Pkts | The total number of uplink packets over the S5-U interface. |
| Bytes | The total number of uplink bytes over the S5-U interface. |
| Dropped Pkts | The total number of dropped uplink packets over the S5-U interface. |
| Dropped Bytes | The total number of dropped uplink bytes over the S5-U interface. |
| Pkts QCI n | The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of uplink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of uplink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |

| Field | Description |
|-----------------------------------|--|
| Dropped Pkts Non-Std QCI | The total number of dropped uplink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped uplink bytes with a non-standard QoS Class Index. |
| Non-Std QCI | The total number of uplink bytes dropped with a non-standard QoS Class Index. |
| Downlink | |
| Pkts | The total number of downlink packets over the S5-U interface. |
| Bytes | The total number of downlink bytes over the S5-U interface. |
| Dropped Pkts | The total number of dropped downlink packets over the S5-U interface. |
| Dropped Bytes | The total number of dropped downlink bytes over the S5-U interface. |
| Pkts QCI n | The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of downlink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of downlink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped downlink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped downlink bytes with a non-standard QoS Class Index. |
| S8-U Total Data Statistics | |
| Uplink | |
| Pkts | The total number of uplink packets over the S8-U interface. |

| Field | Description |
|---------------------------|--|
| Bytes | The total number of uplink bytes over the S8-U interface. |
| Dropped Pkts | The total number of dropped uplink packets over the S8 interface. |
| Dropped Bytes | The total number of dropped uplink bytes over the S8-U interface. |
| Pkts QCI n | The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of uplink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Bytes Non-Std QCI | The total number of uplink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped uplink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped uplink bytes with a non-standard QoS Class Index. |
| Non-Std QCI | The total number of uplink bytes dropped with a non-standard QoS Class Index. |
| Downlink | |
| Pkts | The total number of downlink packets over the S8 interface. |
| Bytes | The total number of downlink bytes over the S8 interface. |
| Dropped Pkts | The total number of dropped downlink packets over the S8 interface. |
| Dropped Bytes | The total number of dropped downlink bytes over the S8 interface. |
| Pkts QCI n | The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Pkts Non-Std QCI | The total number of downlink packets with a non-standard QoS Class Index. |
| Bytes QCI n | The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |

| Field | Description |
|--------------------------------------|--|
| Bytes Non-Std QCI | The total number of downlink bytes with a non-standard QoS Class Index. |
| Dropped Pkts QCI n | The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Pkts Non-Std QCI | The total number of dropped downlink packets with a non-standard QoS Class Index. |
| Dropped Bytes QCI n | The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70. |
| Dropped Bytes Non-Std QCI | The total number of dropped downlink bytes with a non-standard QoS Class Index. |
| Inter-SGW Handover Statistics | |
| PDNs Incoming | |
| X2 Based | The total number of incoming X2-based PDNs. |
| Idle-mode TAU | The total number of incoming PDNs Incoming - Idle-mode TAU |
| S1 Based | The total number of incoming S1-based PDNs. |
| PDNs Outgoing | The total number of outgoing PDNs. |
| Intra-SGW Handover Statistics | |
| Intra-MME | Intra-MME |
| Inter-MME | Inter-MME |
| Intra-SGSN | Intra-SGSN |
| Inter-SGSN | Inter-SGSN |
| MME-to-SGSN | MME-to-SGSN |
| SGSN-to-MME | SGSN-to-MME |
| Paging Statistics | |
| Requests | The total number of paging requests. |
| Success | The total number of paging successes. |
| Rejects | The total number of paging rejects. |
| Failures | The total number of paging failures. |
| Active-Idle Ue Transitions | The total number of Active-Idle UE transitions |
| Idle-Active Ue Transitions | The total number of Idle-Active UE transitions |

| Field | Description |
|---------------------------------------|---|
| Paging Related Data Statistics | |
| Packets Buffered | The total number of buffered paging packets. |
| Bytes Buffered | The total number of buffered paging bytes. |
| Packets Discarded | The total number of discarded paging packets. |
| Bytes Discarded | The total number of discarded paging bytes. |
| Idle Mode ACL Statistics | |
| Packets Discarded | The total number of discarded paging packets due to ACL idle mode. |
| Bytes Discarded | The total number of discarded paging bytes due to ACL idle mode. |
| Indirect Forwarding Statistics | |
| Tunnels Setup | The total number of indirect forwarding tunnels setup. |
| Tunnels Failed | The total number of failed indirect forwarding tunnels. |
| Tunnels Released | The total number of indirect forwarding tunnels released. |
| Bearers Setup | The total number of indirect forwarding bearers setup. |
| Bearers Released | The total number of indirect forwarding bearers released. |
| DL Packets Forwarded | The total number of indirect forwarding download packets forwarded. |
| DL Bytes Forwarded | The total number of indirect forwarding download bytes forwarded. |
| Source Violations | |
| Packets Dropped | The total number of packets dropped due to source violations. |
| Bytes Dropped | The total number of bytes dropped due to source violations. |
| PDN PLMN Statistics | |
| Home PDNs | |
| PDNs active | The total number of home PDNs active. |
| PDNs setup | The total number of home PDNs setup. |
| PDNs released | The total number of home PDNs released. |
| Roaming PDNs | |
| PDNs active | The total number of roaming PDNs active. |

| Field | Description |
|--|---|
| PDNs setup | The total number of roaming PDNs setup. |
| PDNs released | The total number of roaming PDNs released. |
| Visiting PDNs | |
| PDNs active | The total number of visiting PDNs active. |
| PDNs setup | The total number of visiting PDNs setup. |
| PDNs released | The total number of visiting PDNs released. |
| Miscellaneous | |
| Uplink Data Before MBReq | Uplink data before MBreq |
| CBReq Rcvd Before CSRsp | CBReq Rcvd before CSRsp |
| 802.1p priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later. |
| Priority marking statistics | |
| Uplink: Priority 0-7 | The total number of packets sent in the uplink direction marked with an internal QoS priority. |
| Downlink: Priority 0-7 | The total number of packets sent in the downlink direction marked with an internal QoS priority. |
| Local Call Cleanup Cause Statistics | |
| Bearer Not in Same State | Total number of EGTPC Assert removals due to the bearer not being in the same state. |
| Bearer Not In Correct State | Total number of EGTPC Assert removals due to the bearer not being in the correct state. |
| Duplicate Data TEID | Total number of EGTPC Assert removals due to duplicate data tunnel endpoint identifiers. |
| Remote Addr Not Compatible | Total number of EGTPC Assert removals due to an incompatible remote address. |
| Bad Peer | Total number of EGTPC Assert removals due to bad peers. |
| Bearer Context Missing | Total number of EGTPC Assert removals due to the bearer being missing. |

| Field | Description |
|----------------------------|--|
| eMPS PDN | |
| Current Active | |
| Cumulative Activated | |
| Cumulative De-activated | |
| DCNR PDN Statistics | |
| Active | The total number of current active SGW DCNR PDNs. |
| Setup | The total number of SGW PDNs that are setup as DCNR PDN. |
| Released | The total number of SGW DCNR PDNs released. |



CHAPTER 132

show sls-service

This chapter includes the **show sls-service** command output tables.

- [show sls-service all, on page 2055](#)
- [show sls-service statistics, on page 2057](#)

show sls-service all

Table 533: show sls-service all Command Output Descriptions

| Field | Description |
|-------------------------|---|
| Service name | The configured SLs service name. |
| Service id | The system generated identification number of the SLs service. |
| Context | The name of the context in which SLs service is configured. |
| Status | Status of this SLs service. |
| Bind | Indicates whether the service is bound to an interface.: Done or None. |
| SLs-MME IP Address | The IP address(es) configured for this SLs service. |
| SCTP Port | The source port number for SCTP communications. |
| T-3x01 (Low Delay) | The number of seconds configured for the T-3x01 (Low Delay) timer, which defines the number of seconds the MME waits for a "low delay" response from the E-SMLC. |
| T-3x01 (Delay Tolerant) | The number of seconds configured for the T-3x01 (Delay Tolerant) timer, which defines the number of seconds the MME waits for a "delay tolerant" response from the E-SMLC. |
| T-3x02 | The number of seconds configured for the T-3x02 timer. The T-3x02 timer is started on the MME when the MME sends a RESET REQUEST to the E-SMLC. Once the T3x02 timer expires, the MME can resend the RESET REQUEST to the E-SMLC. |

| Field | Description |
|--------------------------------|---|
| Max Re-Transmission | The configured maximum number of times the MME will resend a RESET REQUEST to the ESMLC. |
| SCTP Param Template Associated | Displays the name of the SCTP Parameter Template associated with the service. Note: If no SCTP Parameter Template has been associated with this SLs Service, this output field and all the following SCTP fields are not shown. |
| SCTP Alpha | Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template. |
| SCTP Beta | Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template. |
| SCTP Checksum Type | Displays the SCTP checksum type as configured in the SCTP Parameter Template. |
| SCTP Valid Cookie Lifetime | Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template. |
| SCTP Max Assoc Retrans | Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template. |
| SCTP Max Number of In Streams | Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Init Retransmissions | Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template. |
| SCTP Max MTU | Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Max Number of Out Streams | Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Path Retransmissions | Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template. |
| SCTP Min MTU | Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP RTO Initial | Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |
| SCTP RTO Max | Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |
| SCTP RTO Min | Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template. |

| Field | Description |
|----------------------------|--|
| SCTP Sack Frequency | Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template. |
| SCTP Sack Period | Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template. |
| SCTP Start MTU | Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template. |
| SCTP Heartbeat Status | Displays the SCTP heartbeat status as configured in the SCTP Parameter Template. |
| SCTP HeartBeat Timer | Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template. |
| SCTP Bundle Status | Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template. |
| SCTP Bundle Timer | Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template. |
| SCTP Alternate Accept Flag | Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template. |

show sls-service statistics

Table 534: show sls-service statistics Command Output Descriptions

| Field | Description |
|---------------------|--|
| SLS-AP Statistics | |
| Sent Messages: | |
| Location Request | The total number of SLs Application Protocol - Location Request messages transmitted. |
| Location Abort | The total number of SLs Application Protocol - Location Abort messages transmitted. |
| Connection Info | The total number of SLs Application Protocol - Connection oriented information messages transmitted. |
| Connectionless Info | The total number of SLs Application Protocol - Non Connection oriented information messages transmitted. |
| Reset Req | The total number of SLs Application Protocol - Reset messages transmitted. |
| Reset Ack | The total number of SLs Application Protocol - Reset acknowledgements transmitted. |

| Field | Description |
|--------------------------|---|
| Received Messages: | |
| Location Response | The total number of SLs Application Protocol - Location Responses received. |
| Connection Info | The total number of SLs Application Protocol - Connection oriented information messages received. |
| Connectionless Info | The total number of SLs Application Protocol - Non Connection oriented information messages received. |
| Reset Req | The total number of SLs Application Protocol - Reset messages received. |
| Reset Ack | The total number of SLs Application Protocol - Reset Acknowledgements received. |
| SCTP Statistics | |
| Transmitted SCTP Data | This sub-group displays the statistics of the total data processed and transmitted over Stream Control Transmission Protocol (SCTP) interface by the SLs service. |
| Init Chunks | The total SCTP packets with INIT transmitted by the SLs service. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK transmitted by the SLs service. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN transmitted by the SLs service. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK transmitted by the SLs service. |
| Cookie Chunks | The total SCTP packets with COOKIE transmitted by the SLs service. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK transmitted by the SLs service. |
| Data Chunks | The total SCTP packets with DATA transmitted by the SLs service. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK transmitted by the SLs service. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE transmitted by the SLs service. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT transmitted by the SLs service. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK transmitted by the SLs service. |

| Field | Description |
|--------------------------|--|
| Abort Chunks | The total SCTP packets with ABORT transmitted by the SLs service. |
| Error Chunks | The total SCTP packets with ERROR transmitted by the SLs service. |
| Received SCTP Data | This sub-group displays the statistics of the total data received and processed by the SLs service. |
| Init Chunks | The total SCTP packets with INIT received by the SLs service. |
| Init Ack Chunks | The total SCTP packets with INIT-ACK received by the SLs service. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN received by the SLs service. |
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK received by the SLs service. |
| Cookie Chunks | The total SCTP packets with COOKIE received by the SLs service. |
| Cookie Ack Chunks | The total SCTP packets with COOKIE-ACK received by the SLs service. |
| Data Chunks | The total SCTP packets with DATA received by the SLs service. |
| Data Ack Chunks | The total SCTP packets with DATA-ACK received by the SLs service. |
| Shutdown Complete Chunks | The total SCTP packets with SHUTDOWN-COMPLETE received by the SLs service. |
| Heartbeat Chunks | The total SCTP packets with HEARTBEAT received by the SLs service. |
| HeartBeat Ack Chunks | The total SCTP packets with HEARTBEAT-ACK received by the SLs service. |
| Abort Chunks | The total SCTP packets with ABORT received by the SLs service. |
| Error Chunks | The total SCTP packets with ERROR received by the SLs service. |
| Retransmitted SCTP Data | This sub-group displays the statistics of the total data processed and retransmitted by the SLs service. |
| Init Chunks | The total SCTP packets with INIT retransmitted by the SLs service. |
| Shutdown Chunks | The total SCTP packets with SHUTDOWN retransmitted by the SLs service. |

| Field | Description |
|------------------------|---|
| Shutdown Ack Chunks | The total SCTP packets with SHUTDOWN-ACK retransmitted by the SLs service. |
| Cookie Chunks | The total SCTP packets with COOKIE retransmitted by the SLs service. |
| Data Chunks | The total SCTP packets with DATA transmitted by the SLs service. |
| Total Bytes Sent | The total number of SCTP bytes transmitted by the SLs service to the eSMLC. |
| Total Bytes Received | The total number of SCTP bytes received by the SLs service from the eSMLC. |
| Total Packets Sent | The total number of SCTP packets transmitted by the SLs service to the eSMLC. |
| Total Packets Received | The total number of SCTP packets received by the SLs service from the eSMLC. |



CHAPTER 133

show sms statistics

This chapter includes the **show sms statistics** command output tables.

- [show sms statistics gprs only verbose](#), on page 2061
- [show sms statistics mme-only verbose](#), on page 2073
- [show sms statistics name](#), on page 2080
- [show sms statistics sgsn-only verbose](#), on page 2086
- [show sms statistics verbose](#), on page 2099

show sms statistics gprs only verbose

Table 535: show subscribers sms statistics gprs only verbose Command Output Descriptions

| Field | Description |
|----------------------|---|
| Session Statistics | <p>Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as:</p> <ul style="list-style-type: none"> • MO SMS (in progress) • MT SMS (in progress) • MT SMS (in queue) • SMMA (in progress) • MO SMS (Attempted) • MT SMS (Attempted) • SMMA (Attempted) • MO SMS (successful) • MT SMS (successful) • SMMA (successful) |
| MO SMS (In Progress) | Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network. |

| Field | Description |
|----------------------|--|
| MT SMS (In Progress) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network. |
| MT SMS (In Queue) | Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network. |
| SMMA (In Progress) | Total number of SMMA messages in progress for the reception by the network. An SMMA message is used by the MS to indicate the network about availability of the memory in MS, to receive one or more short messages. |
| MO SMS (Attempted) | Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network. |
| MO SMS (Successful) | Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network. |
| MT SMS (Attempted) | Total number of SMS messages that are Mobile Terminated i.e. being sent to a UE or MS and are being attempted to be delivered by the network. |
| MT SMS (Successful) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network. |
| SMMA (Attempted) | Total number of SMMA messages that the network has attempted to receive. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| SMMA (Successful) | Total number of SMMA messages that are successfully received by the network. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS to receive one or more short messages. |
| Message Statistics | Specifies received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to: <ul style="list-style-type: none"> • CP layer messages • RP layer messages • Message drop counters |

| Field | Description |
|----------------------|--|
| CP Layer Messages | <p>Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages:</p> <ul style="list-style-type: none"> • CP Data: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • CP Ack: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • CP Error: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause. |
| CP Data (Tx) | Total number of transmitted CP data messages. |
| CP Ack (Tx) | Total number of transmitted CP acknowledgement messages. |
| CP Error (Tx) | Total number of transmitted CP error messages. |
| CP Data (Rx) | Total number of received CP data messages. |
| CP Ack (Rx) | Total number of received CP acknowledgement messages. |
| CP Error (Rx) | Total number of received CP error messages. |
| CP Error Cause Stats | <p>The CP error message conveys error information that is sent between MS and network in both directions. The message contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes:</p> <ul style="list-style-type: none"> • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause |

| Field | Description |
|-----------------------------|---|
| Network Failure (Tx) | Total number of errors caused due to network failure while transmitting the message. |
| Congestion (Tx) | Total number of errors caused due to congestion while transmitting the message. |
| Inlaid Sematic (Tx) | Total number of errors caused due to invalid sematic while transmitting the message. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to invalid mandatory information while transmitting the message. |
| Invalid Message Type(Tx) | Total number of errors caused due to invalid schematic while transmitting the message. |
| Invalid Protocol State(Tx) | Total number of errors caused due to invalid protocol state while transmitting the message. |
| Invalid IE (Tx) | Total number of errors caused due to invalid Information Element (IE) while transmitting the message. |
| Protocol Error (Tx) | Total number of errors caused due to protocol error or mismatched protocols while transmitting the message. |
| Undefined Cause (Tx) | Total number of errors caused due to unknown or undefined causes while transmitting the message. |
| Network Failure (Rx) | Total number of errors caused due to network media failure while receiving the message. |
| Congestion (Rx) | Total number of errors caused due to congestion while receiving the message. |
| Inlaid Sematic (Rx) | Total number of errors caused due to invalid message sematic while receiving the message. |
| Invalid Mandatory Info (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message. |
| Invalid Message Type(Rx) | Total number of errors caused due to invalid message type while receiving the message. |
| Invalid Protocol State(Rx) | Total number of errors caused due to invalid protocol state while receiving the message. |
| Invalid IE (Rx) | Total number of errors caused due to invalid Information Element (IE) while receiving the message. |
| Protocol Error (Rx) | Total number of errors caused due to protocol error while receiving the message the message. |
| Undefined Cause (Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message. |

| Field | Description |
|-------------------------------|--|
| Memory Capacity Exceeded (Rx) | Total number of errors caused due to lack of storage capacity in the MS while receiving the message. |
| Invalid Reference Number (Tx) | Total number of errors caused due to wrong or non-existent reference number while transmitting the message. |
| Invalid Semantic (Tx) | Total number of errors caused due to wrong or non-existent semantic information while transmitting the message. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to non-semantic mandatory information while transmitting the message. |
| Invalid Message Type (Tx) | Total number of errors caused due to non-existent or non-implemented message type while transmitting the message. |
| Invalid Protocol State (Tx) | Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message. |
| Invalid IE (Tx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message. |
| Protocol Error (Tx) | Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message. |
| Invalid Reference Number (Rx) | total number of errors caused due to wrong or non-existent reference number while receiving the message. |
| Invalid Semantic (Rx) | Total number of errors caused due to wrong or non-existent semantic information while receiving the message. |
| Invalid Mandatory Info (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message. |
| Invalid Message Type (Rx) | Total number of errors caused due to non-existent or non-implemented message type while receiving the message. |
| Invalid Protocol State (Rx) | Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message. |
| Invalid IE (Rx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message. |
| Protocol Error (Rx) | Total number of errors caused due to wrong or non-implemented protocol used while receiving the message. |
| Undefined Error(Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message. |

| Field | Description |
|-----------------------|---|
| Message Drop Counters | <p>Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • CP Data • CP Ack • CP Error |
| CP Data | Total number of CP data messages that were dropped. |
| Retransmission Drops | Total number of CP data re-transmission messages that were dropped. |
| Unknown TID Drops | <p>Tunnel Identifier (TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of messages dropped due to unknown TID.</p> |
| CP Ack | Total number of CP acknowledgement messages that were dropped. |
| CP Error | Total number of CP error messages that were dropped. |

| Field | Description |
|--|--|
| CP Error Drop for Invalid TId Received | <p>Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of CP error messages that were dropped due to reception of wrong or non-existent Transaction Identifier.</p> |
| RP Layer Messages | <p>Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages:</p> <ul style="list-style-type: none"> • RP Data: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • RP Ack: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • RP –Error : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data. |
| RP Data (Tx) | Total number of transmitted RP data messages. |
| RP AcK (Tx) | Total number of transmitted RP acknowledge messages. |
| RP Error (Tx) | Total number of transmitted RP error messages. |
| RP Data (Rx) | Total number of received RP data messages. |
| RP AcK (Rx) | Total number of received RP acknowledgement messages. |
| RP Error (Rx) | Total number of received RP error messages. |
| RP SMMA (Rx) | Total number of received RP SMMA messages. |

| Field | Description |
|----------------------------------|---|
| RP Error Cause Statistics | <p>The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes:</p> <ul style="list-style-type: none"> • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable |
| Unassigned Number (Tx) | Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network. |
| Operator Determined Barring (Tx) | Total number of errors caused due to operator determined barring while transmitting the message from MS to network. |
| Call Barred (Tx) | Total number of errors caused due to calls barred while transmitting the message from MS to network. |
| Reserved (Tx) | Total number or errors caused due to calls reserved while transmitting the message from MS to network. |
| SM Transfer Rejected (Tx) | Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network. |
| Destination Out of Order (Tx) | Total number of errors caused due to destination out of order while transmitting the message from MS to network. |
| Unidentified Subscriber (Tx) | Total number of errors caused due to unidentified subscriber while transmitting the message form MS to network. |

| Field | Description |
|----------------------------|---|
| Facility Rejected (Tx) | Total number of errors caused due to rejection of the facility while transmitting the message from MS to network. |
| Unknown Subscriber (Tx) | Total number of errors caused due to un-known subscriber while transmitting the message from MS to network. |
| Network Out of Order (Tx) | Total number of errors caused due to un-availability of the network while transmitting the message from MS to network. |
| Temporary Failure (Tx) | Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network. |
| Congestion (Tx) | Total number of errors caused due to congestion in the network while transmitting the message from MS to network. |
| Not Subscribed (Tx) | Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network. |
| Not Implemented (Tx) | Total number of errors caused due to non-implementation while transmitting the message from MS to network. |
| Interworking Error (Tx) | <p>Network interworking is required when for the service execution, a packet domain PLMN works with any other network. The interworking takes place mostly using Gi and Gp interfaces.</p> <p>Total number of errors caused due to interworking errors while transmitting the message from MS to network.</p> |
| Resource Un-available (Tx) | Total number of errors caused due to un availability of the resource while transmitting the message from MS to network. |
| Message Drop Counters | <p>Number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • RP Data • RP Ack • RP Error • RP Decode Failure |
| RP Data | Total number of RP data messages that were dropped. |
| RP Ack | Total number of RP acknowledgement messages that were dropped. |
| RP Error | Total number of RP error messages that were dropped. |
| RP Decode Failures | Total number of RP decode failure messages that were dropped. |

| Field | Description |
|-------------------------|---|
| General Statistics | <p>General statistical parameters related to SMS. Along with GMM interaction statistics parameters, It includes:</p> <ul style="list-style-type: none"> • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted • CP-DATA No Cp Ack Rx |
| Concatenated MO SMS | Concatenated MO SMS specifies that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages. This parameter indicates the number of SMCs in such state. |
| TR1N timer | <p>Specifies current status of TR1N timer.</p> <p>TR1N is a timer for Point to Point Short SMS Service (POPSMS). The timer is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.</p> |
| TR2N Timer | <p>Specifies current status of TR2N timer.</p> <p>TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgment message. Refer 3GPP 4.0.11 and 0.12 for more information.</p> |
| CP Data Retransmissions | Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network. |
| RP Message Encode Fail | Total number of messages with failed Short Message Rely Protocol (SM RP) encoding. |

| Field | Description |
|-----------------------------|---|
| CP Data Inv TID | <p>Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol (CP) message is composed of</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of errors due to invalid transaction identifier.</p> |
| Max Retransmissions Reached | Total number of messages that have completed the maximum allowed retransmission attempts. |
| SMSC Addr Restricted | Total number of restricted Short Message Service Center (SMSC) addresses. |
| MO SMSC Addr Restricted | Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network. |
| MT SMSC Addr Restr. | Total number of SMSC address restricted for the Mobile Terminated (MT) messages, i.e. the messages that are being sent from network to MS. |
| GMM Interaction Stats | <p>GMM interaction statistics comprises GPRS Mobility Management (GMM) entities in the network. IT can be used to track the subscriber location within the current or other PLMN. It includes:</p> <ul style="list-style-type: none"> • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication |
| Page Request Sent | The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network. |
| Page Response Successful. | Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode. |

| Field | Description |
|---------------------------------|--|
| Page Response Fail | Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode. |
| Release Indication | GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. These are the number of release indications transmitted between MS and network. |
| Release Indication Waiting (MO) | These are number of release indications waiting to be delivered for MO messages such as: <ul style="list-style-type: none"> • MO CP Ack • MO CP Data • MO CP ERR |
| MO CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered. |
| MO CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered. |
| MO CP ERR Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered. |
| Release Indication Waiting (MT) | These are total number of release indications waiting to be delivered for MT messages such as: <ul style="list-style-type: none"> • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR |
| MT GMM Connection | Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections. |
| MT CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered. |

| Field | Description |
|-----------------------|---|
| MT CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered. |
| MT CP Err Delivery | Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered. |
| MT- SMS Failures | Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: <ul style="list-style-type: none"> • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full |
| IMSI Record not Found | Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record. |
| Busy Subscriber | Total number of SMS messages that failed to reach the MS due to busy status of the subscriber. |
| Detached Subscriber | Total number of SMS messages that failed to reach MS because the intended subscriber was detached. |
| MT Queue Full | Total number of SMS messages that failed to reach MS because the MT message queue was full. |

show sms statistics mme-only verbose

Table 536: show sms statistics mme-only verbose Command Output Descriptions

| Field | Description |
|----------------------|--|
| Session Statistics: | |
| MO SMS (In Progress) | The total number of mobile originated (MO) SMS messages that are waiting in the MME to be delivered. |
| MT SMS (In Progress) | The total number of mobile terminated (MT) SMS messages that are waiting in the MME to be delivered. |
| MT SMS (In Queue) | The total number of mobile terminated SMS messages in the queue. |

| Field | Description |
|-----------------------|--|
| SMMA (In Progress) | The total number of procedures for retrieval of available SMS memory in progress. |
| MO-SMS Attempted | The total number of mobile originated SMS messages that are attempted to be delivered by the network. |
| MO-SMS Successful | The total number of mobile originated SMS messages that are successfully delivered by the network. |
| MT-SMS Attempted | The total number of mobile terminated SMS messages that are attempted to be delivered by the network. |
| MT-SMS Successful | The total number of mobile terminated SMS messages that are successfully delivered by the network. |
| SMMA Attempted | The total number of procedures for retrieval of available SMS memory attempted. |
| SMMA Successful | The total number of procedures for retrieval of available SMS memory successful. |
| Message Statistics: | |
| CP Layer Messages: | |
| CP Data (Tx) | The total number of protocol data units sent during connection setup. |
| CP Data (Rx) | The total number of protocol data units received during connection setup. |
| CP Ack (Tx) | The total number of Ack messages sent during connection setup. |
| CP Ack (Rx) | The total number of Ack messages received during connection setup. |
| CP Error (Tx) | The total number of protocol errors during connection setup in Tx message. |
| CP Error (Rx) | The total number of protocol errors during connection setup in Rx message. |
| CP Error Cause Stats: | |
| Network Failure (Tx) | The total number of protocol errors during connection setup due to network failure in Tx message. |
| Congestion (Tx) | The total number of protocol errors during connection setup due to congestion in Tx message. |
| Invalid TID (Tx) | The total number of protocol errors during connection setup due to invalid transaction ID (TID) in Tx message. |

| Field | Description |
|-------------------------|--|
| Invalid Semantic (Tx) | The total number of protocol errors during connection setup due to invalid semantics in Tx message. |
| Invalid Mand Info (Tx) | The total number of protocol errors during connection setup as mandatory information in Tx message is invalid. |
| Invalid Msg Type (Tx) | The total number of protocol errors during connection setup due to invalid Tx message type. |
| Invalid Prot State (Tx) | The total number of protocol errors during connection setup as protocol state in Tx message is invalid. |
| Invalid IE (Tx) | The total number of protocol errors during connection setup as information element in Tx message is invalid. |
| Protocol Error (Tx) | The total number of protocol errors during connection setup as protocol error in Tx message. |
| Undefined Cause (Tx) | The total number of protocol errors during connection setup due to unspecified error in Tx message. |
| Network Failure (Rx) | The total number of protocol errors during connection setup due to network failure in Rx message. |
| Congestion (Rx) | The total number of protocol errors during connection setup due to congestion in Rx message. |
| Invalid TID (Rx) | The total number of protocol errors during connection setup due to invalid transaction ID (TID) in Rx message. |
| Invalid Semantic (Rx) | The total number of protocol errors during connection setup due to invalid semantics in Rx message. |
| Invalid Mand Info (Rx) | The total number of protocol errors during connection setup as mandatory information in Rx message is invalid. |
| Invalid Msg Type (Rx) | The total number of protocol errors during connection setup due to invalid Rx message type. |
| Invalid Prot State (Rx) | The total number of protocol errors during connection setup as protocol state in Rx message is invalid. |
| Invalid IE (Rx) | The total number of protocol errors during connection setup as information element in Rx message is invalid. |
| Protocol Error (Rx) | The total number of protocol errors during connection setup as protocol error in Rx message. |
| Undefined Cause (Rx) | The total number of protocol errors during connection setup due to unspecified error in Rx message. |
| Message Drop Counters: | |

| Field | Description |
|----------------------------------|---|
| CP Data | The total number of CP data packets dropped during connection setup. |
| Retransmission Drops | The total number of data packets dropped during retransmission. |
| Unknown TID Drops | The total number of data packets dropped during connection setup due to unknown transaction ID (TID). |
| Invalid TID Drops | The total number of data packets dropped during connection setup due to invalid transaction ID (TID) received. |
| CP Ack | The total number of CP acknowledgement messages dropped during connection setup. |
| CP-ACK Drop for Invalid TID Rcvd | The total number of CP-Ack messages dropped during connection setup due to invalid transaction ID (TID) received. |
| CP Error | The total number of CP data packets dropped during connection setup due to error in connection. |
| CP-ERR Drop for Invalid TID Rcvd | The total number of CP-ERR messages dropped during connection setup due to invalid transaction ID (TID) received. |
| RP Layer Messages: | |
| RP Data (Tx) | The total number of protocol data units sent during message relay. |
| RP Ack (Tx) | The total number of Ack messages sent during message relay. |
| RP Error (Tx) | The total number of protocol errors during message relay in Tx message. |
| RP Data (Rx) | The total number of protocol data units received during message relay. |
| RP Ack (Rx) | The total number of Ack messages received during message relay. |
| RP Error (Rx) | The total number of protocol errors during message relay in Rx message. |
| RP SMMA (Rx) | The total number of RP SMMA messages received. |
| RP Error Cause Stats: | |
| Unassigned Number (Tx) | The total number of protocol errors sent during message relay due to unassigned protocol number. |
| Opr. Determined Barring (Tx) | The total number of protocol errors sent during message relay due to operator determined barring. |
| Call Barred (Tx) | The total number of protocol errors sent during message relay due to call barring. |

| Field | Description |
|-------------------------------|---|
| Reserved (Tx) | The total number of protocol errors sent during message relay due to reserved resources. |
| SM Transfer Rejected (Tx) | The total number of protocol errors sent during message relay due to session manager transfer rejection. |
| Destination Out of Order (Tx) | The total number of protocol errors sent during message relay due to out of order on destination. |
| Unidentified Subscriber (Tx) | The total number of protocol errors sent during message relay due to unidentified subscriber. |
| Facility Rejected (Tx) | The total number of protocol errors sent during message relay due to facility rejection. |
| Unknown Subscriber (Tx) | The total number of protocol errors sent during message relay due to unknown subscriber. |
| Network Out of Order (Tx) | The total number of protocol errors sent during message relay due to out-of-order network. |
| Temporary Failure (Tx) | The total number of protocol errors sent during message relay due to temporary failure in network. |
| Congestion (Tx) | The total number of protocol errors sent during message relay due to congestion in network. |
| Not Subscribed (Tx) | The total number of protocol errors sent during message relay as this service is not subscribed by subscriber. |
| Not Implemented (Tx) | The total number of protocol errors sent during message relay as this service is not yet implemented. |
| Interworking Error (Tx) | The total number of protocol errors sent during message relay due to interworking error between two networks or technology. |
| Resource Un-available (Tx) | The total number of protocol errors sent during message relay as resources are not available. |
| Memory Capacity Exceeded (Rx) | The total number of protocol errors received during message relay as capacity is exceeded. |
| Invalid Reference Number (Tx) | The total number of protocol errors during message relay as invalid reference in Tx message. |
| Invalid Semantic (Tx) | The total number of protocol errors during message relay due to invalid semantics in Tx message. |
| Invalid Mandatory Info (Tx) | The total number of protocol errors during message relay as mandatory information in Tx message is invalid. |
| Invalid Message Type (Tx) | The total number of protocol errors during message relay due to invalid Tx message type. |

| Field | Description |
|-------------------------------|---|
| Invalid Protocol State (Tx) | The total number of protocol errors during message relay as protocol state in Tx message is invalid. |
| Invalid IE (Tx) | The total number of protocol errors during message relay as information element in Tx message is invalid. |
| Protocol Error (Tx) | The total number of RP ERROR messages sent with the cause Protocol Error in the message header. |
| Undefined Error (Tx) | The total number of protocol errors during message relay due to unspecified error in Tx message. |
| Invalid Reference Number (Rx) | The total number of protocol errors during message relay as invalid reference in Rx message. |
| Invalid Semantic (Rx) | The total number of protocol errors during message relay due to invalid semantics in Rx message. |
| Invalid Mandatory Info (Rx) | The total number of protocol errors during message relay as mandatory information in Rx message is invalid. |
| Invalid Message Type (Rx) | The total number of protocol errors during message relay due to invalid Rx message type. |
| Invalid Protocol State (Rx) | The total number of protocol errors during message relay as protocol state in Rx message is invalid. |
| Invalid IE (Rx) | The total number of protocol errors during message relay as information element in Rx message is invalid. |
| Protocol Error (Rx) | The total number of RP ERROR messages received with the cause Protocol Error in the message header. |
| Undefined Error (Rx) | The total number of protocol errors during message relay due to unspecified error in Rx message. |
| Message Drop Counters: | |
| RP Data | The total number of RP data packets dropped during message relay. |
| RP Ack | The total number of RP acknowledgement messages dropped during message relay. |
| RP Error | The total number of RP data packets dropped during message relay due to error in connection. |
| RP Decode Failures | The total number of messages dropped during message relay due to invalid transaction ID (TID) received. |
| General Statistics: | |

| Field | Description |
|--|--|
| Concatenated MO SMS | The total number of concatenated mobile originated SMS messages. |
| CP Timer Expiry | The total number of events when timer expired during connection setup. |
| TR1N timer | The total number of events when TR1N timer expired during mobile terminated SMS is in wait state for RP-ACK. |
| TR2N Timer | The total number of events when TR2N timer expired during mobile terminated SMS is in wait state to send RP-ACK. |
| CP Data Retrans | The total number of protocol data units retransmitted during connection setup. |
| RP Msg Encode Fail | The total number of message encoding failures during message relay. |
| CP Data Tx Fail | The total number of protocol data units with Tx messages failed during connection setup. |
| CP Data Inv TID | The total number of protocol data units with invalid transaction ID (TID) during connection setup. |
| Max Returns Reached | The total number of events when retransmission limit is exhausted during connection setup. |
| SMSC Addr Restricted | The total number of SMSC addresses restricted. |
| MO SMSC Addr Restr | The total number of mobile originated SMSC addresses restricted. |
| MT SMSC Addr Restr. | The total number of mobile terminated SMSC addresses restricted. |
| CP-DATA No Cp Ack Rx | The total number of mobile terminated messages failed as no acknowledgement is received during connection setup. |
| Release Indication Waiting MO CP-ACK Delivery | The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered. |
| Release Indication Waiting MO CP-DATA Delivery | The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered. |
| Release Indication Waiting MO CP-ERR Delivery | The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered. |
| Release Indication Waiting MT CP-DATA Delivery | The total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered. |

| Field | Description |
|---|--|
| Release Indication Waiting MT CP-Ack Delivery | The total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered. |
| Release Indication Waiting MT CP-Err Delivery | The total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered. |
| MT-SMS Failures: | |
| IMSI Record not Found | The total number of mobile terminated messages failed as IMSI record is not available. |
| Busy Subscriber | The total number of mobile terminated messages failed due to busy subscriber. |
| Detached Subscriber | The total number of mobile terminated messages failed due to detached subscriber. |
| MT Queue Full | The total number of mobile terminated messages failed as messaged queue was full. |

show sms statistics name

Table 537: show subscribers sms statistics name Command Output Descriptions

| Field | Description |
|----------------------|--|
| Session statistics | <p>Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as:</p> <ul style="list-style-type: none"> • MO SMS (in progress) • MT SMS (in progress) • SMMA (in progress) • MO SMS (Attempted) • MT SMS (Attempted) • SMMA (Attempted) • MO SMS (successful) • MT SMS (successful) • SMMA (successful) |
| MO SMS (In progress) | Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network. |

| Field | Description |
|----------------------|---|
| MT SMS (In Progress) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network. |
| SMMA (In Progress) | Total number of SMMA messages in progress for the reception by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| MO SMS (Attempted) | Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network. |
| MT SMS (Attempted) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being attempted to be delivered by the network. |
| SMMA (Attempted) | Total number of SMMA messages that the network has attempted to receive. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| MO SMS (Successful) | Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network. |
| MT SMS (Successful) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network. |
| SMMA (Successful) | Total of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| Message Statistics | <p>Message statistics comprises, received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to:</p> <ul style="list-style-type: none"> • CP layer messages • RP layer messages • Message drop counters |

| Field | Description |
|-----------------------|--|
| CP Layer Messages | <p>Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages:</p> <ul style="list-style-type: none"> • CP Data: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • CP Ack: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • CP Error: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause. |
| CP Data (Tx) | Total number of transmitted CP data messages. |
| CP Ack (Tx) | Total number of transmitted CP acknowledgement messages. |
| CP Error (Tx) | Total number of transmitted CP error messages. |
| CP Data (Rx) | Total number of received CP data messages. |
| CP Ack (Rx) | Total number of received CP acknowledgement messages. |
| CP Error (Rx) | Total number of received CP error messages. |
| Message Drop Counters | <p>Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error |
| CP Data | Total number of CP data messages that were dropped. |
| Retransmission Drops | Total number of CP data re-transmission messages that were dropped. |

| Field | Description |
|-------------------|--|
| Unknown TId Drops | <p>Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of:</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of messages dropped due to unknown TID.</p> |
| CP Ack | Total number of CP acknowledgement messages that were dropped. |
| CP Error | Total number of CP error messages that were dropped. |
| RP Layer Messages | <p>Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages:</p> <ul style="list-style-type: none"> • RP Data: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • RP Ack: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • RP –Error : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data. |
| RP Data (Tx) | Total number of transmitted RP data messages. |
| RP Ack (Tx) | Total number of transmitted RP acknowledge messages. |
| RP Error (Tx) | Total number of transmitted RP error messages. |
| RP Data (Rx) | Total number of received RP data messages. |
| RP Ack (Rx) | Total number of received RP acknowledgement messages. |
| RP Error (Rx) | Total number of received RP error messages. |

| Field | Description |
|-----------------------|---|
| RP SMMA (Rx) | Total number of received RP SMMA messages. |
| Message Drop Counters | Number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as: <ul style="list-style-type: none"> • RP Data • RP Ack • RP Error • RP Decode Failure |
| RP Data | Total number of RP data messages that were dropped. |
| RP Ack | Total number of RP acknowledgement messages that were dropped. |
| RP Error | Total number of RP error messages that were dropped. |
| RP Decode Failures | Total number of RP decode failure messages that were dropped. |
| General Statistics | General statistical parameters related to SMS. Along with GMM interaction statistics parameters, It includes: <ul style="list-style-type: none"> • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions. • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted |
| Concatenated MO SMS | Concatenated MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages. This parameter indicates the number of SMCs in such state. |
| TR1N Timer | Specifies current status of TR1N timer. TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information. |

| Field | Description |
|-----------------------------|---|
| TR2N Timer | Specifies current status of TR2N timer. TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information. |
| CP Data Retransmissions | Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network. |
| RP Message Encode Fail | Total number of messages with failed Short Message Rely Protocol (SM RP) encoding. |
| CP Data Tx Fail | Total number of errors due to transmission failure for the CP-data messages. |
| CP Data Inv TID | Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number messages with invalid transaction identifier. |
| Max Retransmissions Reached | Total number of messages that have completed the maximum allowed retransmission attempts. |
| SMSC Addr Restricted | Total number of restricted Short Message Service Center (SMSC) addresses. |
| GMM Interaction Stats | GMM interaction statistics comprises GPRS Mobility Management (GMM) entities in the network. It includes: <ul style="list-style-type: none"> • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication |
| Page Request Sent | The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network. |

| Field | Description |
|--------------------------|---|
| Page Response Successful | Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode. |
| Page Response Fail | Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode. |
| Release Indication | GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network. |

show sms statistics sgsn-only verbose

Table 538: show sms statistics sgsn-only verbose Command Output Descriptions

| Field | Description |
|----------------------|--|
| Session Statistics: | Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as: <ul style="list-style-type: none"> • MO SMS (In Progress) • MT SMS (In Progress) • MT SMS (In Queue) • SMMA (In Progress) • MO SMS (Attempted) • MO SMS (Successful) • MT SMS (Attempted) • MT SMS (Successful) • SMMA (Attempted) • SMMA (Successful) |
| MO SMS (In Progress) | Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network. It includes parameters related to: |
| MT SMS (In Progress) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network. |

| Field | Description |
|---------------------|--|
| MT SMS (In Queue) | Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network. |
| SMMA (In Progress) | Total number of SMMA messages in progress for the reception by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| MO SMS (Attempted) | Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network. |
| MO SMS (Successful) | Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network. |
| MT SMS (Attempted) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being attempted to be delivered by the network. |
| MT SMS (Successful) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network. |
| SMMA (Attempted) | Total number of SMMA messages that the network has attempted to receive. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| SMMA (Successful) | Total number of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| Message Statistics | <p>Message statistics comprises, received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. It includes parameters related to:</p> <ul style="list-style-type: none"> • CP layer messages • RP layer messages • Message drop counters |

| Field | Description |
|----------------------|--|
| CP Layer Messages | <p>Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages:</p> <ul style="list-style-type: none"> • CP Data: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • CP Ack: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • CP Error: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause. |
| CP Data (Tx) | Total number of transmitted CP data messages. |
| CP Ack (Tx) | Total number of transmitted CP acknowledgement messages. |
| CP Error (Tx) | Total number of transmitted CP error messages. |
| CP Data (Rx) | Total number of received CP data messages. |
| CP Ack (Rx) | Total number of received CP acknowledgement messages. |
| CP Error (Rx) | Total number of received CP error messages. |
| CP Error Cause Stats | <p>The CP error message that conveys error information that is sent between MS and MSC in both directions. It contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes:</p> <ul style="list-style-type: none"> • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause |

| Field | Description |
|------------------------------------|--|
| Network Failure (Tx) | Total number of errors caused due to network failure while transmitting the message from network to MS. |
| Congestion (Tx) | Total number of errors caused due to congestion while transmitting the message from network to MS. |
| Inlaid Sematic (Tx) | Total number of errors caused due to invalid sematic while transmitting the message from network to MS. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to invalid mandatory information while transmitting the message from network to MS. |
| Invalid Message Type(Tx) | Total number of errors caused due to invalid schematic while transmitting the message from network to MS. |
| Invalid Protocol State(Tx) | Total number of errors caused due to invalid protocol state while transmitting the message from network to MS. |
| Invalid IE (Tx) | Total number of errors caused due to invalid Information Element (IE) while transmitting the message from network to MS. |
| Protocol Error (Tx) | Total number of errors caused due to protocol error while receiving the message the message from network to MS. |
| Undefined Cause (Tx) | Total number of errors caused due to unknown or un-defined cause while receiving the message from network toMS. |
| Network Failure (Rx) | Total number of errors caused due to network media failure while receiving the message from MS to network. |
| Congestion (Rx) | Total number of errors caused due to congestion while receiving the message from MS to network. |
| Inlaid Sematic(Rx) | Total number of errors caused due to invalid sematic while receiving the message from MS to network. |
| Invalid Mandatory Information (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message from MS to network. |
| Invalid Message Type(Rx) | Total number of errors caused due to invalid message type while receiving the message from MS to network. |
| Invalid Protocol State(Rx) | Total number of errors caused due to invalid protocol state while receiving the message from MS to network. |
| Invalid IE (Rx) | Total number of errors caused due to invalid Information Element (IE) while receiving the message from MS to network. |
| Protocol Error (Rx) | Total number of errors caused due to protocol error while receiving the message the message from MS to network. |
| Undefined Cause (Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message from MS to network. |

| Field | Description |
|--|---|
| Message Drop Counters | <p>Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error |
| CP Data | Total number of CP data messages that were dropped. |
| Retransmission Drops | Total number of CP data re-transmission messages that were dropped. |
| Unknown TId Drops | <p>Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>Control Protocol (CP) message is composed of:</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of messages dropped due to unknown transaction identifier.</p> |
| CP Ack | Total number of CP acknowledgement messages that were dropped. |
| CP Error | Total number of CP error messages that were dropped. |
| CP Error Drop for Invalid TId Received | Total number of CP error messages dropped due to reception of wrong or non-existent Transaction Identifier (TId). |

| Field | Description |
|-------------------|--|
| RP Layer Messages | <p>Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages:</p> <ul style="list-style-type: none"> • RP Data: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • RP Ack: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • RP –Error : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data. |
| RP Data (Tx) | Total number of transmitted RP data messages. |
| RP AcK (Tx) | Total number of transmitted RP acknowledgement messages. |
| RP Error (Tx) | Total number of transmitted RP error messages. |
| RP Data (Rx) | Total number of received RP data messages. |
| RP Ack (Rx) | Total number of received RP acknowledgement messages. |
| RP Error (Rx) | Total number of received RP error messages. |
| RP SMMA (Rx) | Total number of received RP SMMA messages. |

| Field | Description |
|----------------------------------|---|
| RP Error Cause Statistics | <p>The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes:</p> <ul style="list-style-type: none"> • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable |
| Unassigned Number (Tx) | Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network. |
| Operator Determined Barring (Tx) | Total number of errors caused due to operator determined barring while transmitting the message from MS to network. |
| Call Barred (Tx) | Total number of errors caused due to calls barred while transmitting the message from MS to network. |
| Reserved (Tx) | Total number or errors caused due to calls reserved while transmitting the message from MS to network. |
| SM Transfer Rejected (Tx) | Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network. |
| Destination Out of Order (Tx) | Total number of errors caused due to destination out of order while transmitting the message from MS to network. |
| Unidentified Subscriber (Tx) | Total number of errors caused due to destination out of order while transmitting the message from MS to network. |

| Field | Description |
|-------------------------------|--|
| Facility Rejected (Tx) | Total number of errors caused due to rejection of the facility while transmitting the message from MS to network. |
| Unknown Subscriber (Tx) | Total number of errors caused due to un-known subscriber while transmitting the message from MS to network. |
| Network Out of Order (Tx) | Total number of errors caused due to un-availability of the network while transmitting the message from MS to network. |
| Temporary Failure (Tx) | Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network. |
| Congestion (Tx) | Total number of errors caused due to congestion in the network while transmitting the message from MS to network. |
| Not Subscribed (Tx) | Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network. |
| Not Implemented (Tx) | Total number of errors caused due to non-implementation while transmitting the message from MS to network. |
| Interworking Error (Tx) | Network interworking is required when for the service execution, a packet domain PLMN works with any other network. The interworking takes place mostly using Gi and Gp interfaces. Total number of errors caused due to interworking errors while transmitting the message from MS to network. |
| Resource Un-available (Tx) | Total number of errors caused due to un availability of the resource while transmitting the message from MS to network. |
| Memory Capacity Exceeded | Total number of errors caused due to lack of storage capacity in the MS while receiving the message. |
| Invalid Reference Number (Tx) | Total number of errors caused due to wrong or non-existent reference number while transmitting the message. |
| Invalid Semantic (Tx) | Total number of errors caused due to wrong or non-existent semantic information while transmitting the message. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to non-semantic mandatory information while transmitting the message. |
| Invalid Message Type (Tx) | Total number of errors caused due to non-existent or non-implemented message type while transmitting the message. |
| Invalid Protocol State (Tx) | Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message. |
| Invalid IE (Tx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message. |

| Field | Description |
|-------------------------------|--|
| Protocol Error (Tx) | Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message. |
| Invalid Reference Number (Rx) | Total number of errors caused due to wrong or non-existent reference number while receiving the message. |
| Invalid Semantic (Rx) | Total number of errors caused due to wrong or non-existent semantic information while receiving the message. |
| Invalid Mandatory Info (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message. |
| Invalid Message Type (Rx) | Total number of errors caused due to non-existent or non-implemented message type while receiving the message. |
| Invalid Protocol State (Rx) | Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message. |
| Invalid IE (Rx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message. |
| Protocol Error (Rx) | Total number of errors caused due to wrong or non-implemented protocol used while receiving the message. |
| Undefined Error (Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message. |
| Message Drop Counters | <p>Message drop counter comprises RP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • RP Data • RP Ack • RP Error • RP Decode Failure |
| RP Data | Total number of RP data messages that were dropped. |
| RP Ack | Total number of RP acknowledgement messages that were dropped. |
| RP Error | Total number of RP error messages that were dropped. |
| RP Decode Failures | Total number of RP decode failure messages that were dropped. |

| Field | Description |
|-------------------------|--|
| General Statistics | <p>General statistics comprises statistical parameters related to SMS, along with GMM interaction statistics parameters, It includes:</p> <ul style="list-style-type: none"> • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted |
| Concatenated MO SMS | Concatenated MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages. This parameter indicates the number of SMCs in such state. |
| TR1N timer | <p>Specifies current status of TR1N timer.</p> <p>TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.</p> |
| TR2N Timer | <p>Specifies current status of TR2N timer.</p> <p>TR2N timer is a timer for Point to Point Short Message Service (POPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information.</p> |
| CP Data Retransmissions | Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network. |
| RP Message Encode Fail | Total number of messages with failed Short Message Rely Protocol (SM RP) encoding. |

| Field | Description |
|-----------------------|---|
| CP Data Inv TID | <p>Tunnel Identifier (TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of:</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) |
| Max Returns Reached | Total number of messages that have completed the maximum allowed retransmission attempts. |
| SMSC Addr Restricted | Total number of restricted Short Message Service Center (SMSC) addresses. |
| MO SMSC Addr Restr | Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network. |
| MT SMSC Addr Restr. | Total number of SMSC address restricted for the Mobile Terminated (MT) messages, i.e. the messages that are being sent from network to MS. |
| GMM Interaction Stats | <p>GMM interaction statistics comprises GPRS Mobility Management (GMM) entities in the network. It includes:</p> <ul style="list-style-type: none"> • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication |
| Page Request Sent | The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network. |
| Page Response Succ | Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode. |
| Page Response Fail | Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode. |

| Field | Description |
|---------------------------------|---|
| Release Indication | GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network. |
| Release Indication Waiting (MO) | These are total number of release indications waiting to be delivered for MO messages such as: <ul style="list-style-type: none"> • MO CP Ack • MO CP Data • MO CP ERR |
| MO CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered. |
| MO CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered. |
| MO CP ERR Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered. |
| Release Indication Waiting (MT) | These are total number of release indications waiting to be delivered for MT messages such as: <ul style="list-style-type: none"> • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR |
| MT GMM Connection | Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections. |
| MT CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered. |
| MT CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered. |

| Field | Description |
|-----------------------|---|
| MT CP Err Delivery | Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered. |
| MT- SMS Failures | Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: <ul style="list-style-type: none"> • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full |
| IMSI Record not Found | Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record. |
| Busy Subscriber | Total number of SMS messages that failed to reach the MS due to busy status of the subscriber. |
| Detached Subscriber | Total number of SMS messages that failed to reach MS because the intended subscriber was detached. |
| MT Queue Full | Total number of SMS messages that failed to reach MS because the MT message queue was full. |

show sms statistics verbose

Table 539: show subscribers sms statistics name Command Output Descriptions

| Field | Description |
|----------------------|--|
| Session Statistics | <p>Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as:</p> <ul style="list-style-type: none"> • MO SMS (in progress) • MT SMS (in progress) • MT SMS (in queue) • SMMA (in progress) • MO SMS (attempted) • MT SMS (attempted) • MT SMS (successful) • SMMA (Successful) |
| MO SMS (In Progress) | Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network. |
| MT SMS (In Progress) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network. |
| MT SMS (In Queue) | Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network. |
| SMMA (In Progress) | Total number of SMMA messages in progress for the reception by the network. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| MO SMS (Attempted) | Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network. |
| MT SMS (Attempted) | Total number of SMS messages that are Mobile Terminated i.e. being sent to a UE or MS and are being attempted to be delivered by the network. |
| MT SMS (Successful) | Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network. |

| Field | Description |
|--------------------|---|
| SMMA Successful | Total number of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages. |
| Message Statistics | Message statistics comprises received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to: <ul style="list-style-type: none"> • CP layer messages • RP layer messages • Message drop counters |
| CP Layer Messages | Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages: <ul style="list-style-type: none"> • CP Data: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • CP Ack: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • CP Error: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause. |
| CP Data (Tx) | Total number of transmitted CP data messages. |
| CP Ack (Tx) | Total number of transmitted CP acknowledgement messages. |
| CP Error (Tx) | Total number of transmitted CP error messages. |
| CP Data (Rx) | Total number of received CP data messages. |
| CP Ack (Rx) | Total number of received CP acknowledgement messages. |
| CP Error (Rx) | Total number of received CP error messages. |

| Field | Description |
|-----------------------------|---|
| CP Error Cause Stats | <p>The CP error message conveys error information that is sent between MS and MSC in both directions. It contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes:</p> <ul style="list-style-type: none"> • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause |
| Network Failure (Tx) | Total number of errors caused due to network failure while transmitting the message from network to MS. |
| Congestion (Tx) | Total number of errors caused due to congestion while transmitting the message from network to MS. |
| Inlaid Sematic(Tx) | Total number of errors caused due to invalid sematic while transmitting the message from network to MS. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to invalid mandatory information while transmitting the message from network to MS. |
| Invalid Message Type(Tx) | Total number of errors caused due to invalid schematic while transmitting the message from network to MS. |
| Invalid Protocol State(Tx) | Total number of errors caused due to invalid protocol state while transmitting the message from network to MS. |
| Invalid IE (Tx) | Total number of errors caused due to invalid Information Element (IE) while transmitting the message from network to MS. |
| Protocol Error (Tx) | Total number of errors caused due to protocol error while transmitting the message from network to MS. |
| Undefined Cause (Tx) | Total number of errors caused due to unknown or undefined causes while transmitting the message from network to MS. |
| Network Failure (Rx) | Total number of errors caused due to network media failure while receiving the message from MS to network. |
| Congestion (Rx) | Total number of errors caused due to congestion while receiving the message from MS to network. |

| Field | Description |
|-----------------------------|---|
| Inlaid Sematic(Rx) | Total number of errors caused due to invalid sematic while receiving the message from MS to network. |
| Invalid Mandatory Info (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message from MS to network. |
| Invalid Message Type (Rx) | Total number of errors caused due to invalid message type while receiving the message from MS to network. |
| Invalid Protocol State(Rx) | Total number of errors caused due to invalid protocol state while receiving the message from MS to network. |
| Invalid IE (Rx) | Total number of errors caused due to invalid Information Element (IE) while receiving the message from MS to network. |
| Protocol Error (Rx) | Total number of errors caused due to protocol error while receiving the message the message from MS to network. |
| Undefined Cause (Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message from MS to network. |
| Message Drop Counters | <p>Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error |
| CP Data | Total number of CP data messages that were dropped. |
| Retransmission Drops | Total number of CP data re-transmission messages that were dropped. |

| Field | Description |
|---------------------------------------|---|
| Unknown TID Drops | <p>Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol (CP) message is composed of:</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number of messages that were dropped due to unknown transaction identifier.</p> |
| CP Ack | Total number of CP acknowledgement messages that were dropped. |
| CP Error | Total number of CP error messages that were dropped. |
| CP –Error Drop for Invalid TID Recvd. | <p>Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>Specifies total number of CP error messages dropped due to reception of wrong or non-existent Transaction Identifier (TID).</p> |

| Field | Description |
|-------------------|--|
| RP Layer Messages | <p>Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages:</p> <ul style="list-style-type: none"> • RP Data: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • RP Ack: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • RP –Error : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data. |
| RP Data (Tx) | Total number of transmitted RP data messages. |
| RP Ack (Tx) | Total number of transmitted RP acknowledge messages. |
| RP Error (Tx) | Total number of transmitted RP error messages. |
| RP Data (Rx) | Total number of received RP data messages. |
| RP Ack (Rx) | Total number of received RP acknowledgement messages. |
| RP Error (Rx) | Total number of received RP error messages. |
| RP SMMA (Rx) | Total number of received RP SMMA messages. |

| Field | Description |
|-------------------------------|---|
| RP Error Cause Statistics | <p>The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes:</p> <ul style="list-style-type: none"> • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable |
| Unsigned Number (Tx) | Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network. |
| Opr. Determined Barring (Tx) | Total number of errors caused due to operator determined barring while transmitting the message from MS to network. |
| Call Barred (Tx) | Total number of errors caused due to calls barred while transmitting the message from MS to network. |
| Reserved (Tx) | Total number or errors caused due to calls reserved while transmitting the message from MS to network. |
| SM Transfer Rejected (Tx) | Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network. |
| Destination Out of Order (Tx) | Total number of errors caused due to destination out of order while transmitting the message from MS to network. |
| Unidentified Subscriber (Tx) | Total number of errors caused due to unidentified subscriber while transmitting the message form MS to network. |

| Field | Description |
|-------------------------------|--|
| Network Out of Order (Tx) | Total number of errors caused due to un-availability of the network while transmitting the message from MS to network. |
| Temporary Failure (Tx) | Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network. |
| Congestion (Tx) | Total number of errors caused due to congestion in the network while transmitting the message from MS to network. |
| Not Subscribed (Tx) | Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network. |
| Not Implemented (Tx) | Total number of errors caused due to non-implementation while transmitting the message from MS to network. |
| Interworking Error (Tx) | Network interworking is required when for the service execution, a packet domain PLMN works with any other network. The interworking takes place mostly using Gi and Gp interfaces. Total number of errors caused due to interworking errors while transmitting the message from MS to network. |
| Resource Un-available (Tx) | Total number of errors caused due to un availability of the resource while transmitting the message from MS to network. |
| Memory Capacity Exceed | Total number of errors caused due to lack of storage capacity in the MS while receiving the message. |
| Invalid Reference Number (Tx) | Total number of errors caused due to wrong or non-existent reference number while transmitting the message. |
| Invalid Semantic (Tx) | Total number of errors caused due to wrong or non-existent semantic information while transmitting the message. |
| Invalid Mandatory Info (Tx) | Total number of errors caused due to non-semantic mandatory information while transmitting the message. |
| Invalid Message Type (Tx) | Total number of errors caused due to non-existent or non-implemented message type while transmitting the message. |
| Invalid Protocol State (Tx) | Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message. |
| Invalid IE (Tx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message. |
| Protocol Error (Tx) | Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message. |
| Undefined Error (Tx) | Total number of errors caused due to unknown or un-defined cause while transmitting the message. |

| Field | Description |
|-------------------------------|---|
| Invalid Reference Number (Rx) | Total number of errors caused due to wrong or non-existent reference number while receiving the message. |
| Invalid Semantic (Rx) | Total number of errors caused due to wrong or non-existent semantic information while receiving the message. |
| Invalid Mandatory Info (Rx) | Total number of errors caused due to invalid mandatory information while receiving the message. |
| Invalid Message Type (Rx) | Total number of errors caused due to non-existent or non-implemented message type while receiving the message. |
| Invalid Protocol State (Rx) | Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message. |
| Invalid IE (Rx) | Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message. |
| Protocol Error (Rx) | Total number of errors caused due to wrong or non-implemented protocol used while receiving the message. |
| Undefined Error (Rx) | Total number of errors caused due to unknown or un-defined cause while receiving the message. |
| Message Droop Counters | <p>Message drop counters comprises number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as:</p> <ul style="list-style-type: none"> • RP Data • RP Ack • RP Error • RP Decode Failure |
| RP Data | Total number of RP data messages that were dropped. |
| RP Ack | Total number of RP acknowledgement messages that were dropped. |
| RP Error | Total number of RP error messages that were dropped. |
| RP Decode Failure | total number of RP decode failure messages that were dropped. |

| Field | Description |
|-------------------------|--|
| General Statistics | <p>General statistics comprises statistical parameters related to SMS, along with GMM interaction statistics parameters, It includes:</p> <ul style="list-style-type: none"> • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted • CP-DATA No Cp Ack Rx |
| Concatenated MO SMS | <p>Connected MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages. This parameter indicates the number of SMCs in such state.</p> |
| TR1N timer | <p>Specifies current status of TR1N timer.</p> <p>TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.</p> |
| TR2N Timer | <p>Specifies current status of TR2N timer.</p> <p>TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information.</p> |
| CP Data Retransmissions | <p>Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network.</p> |
| RP Message Encode Fail | <p>Total number of messages with failed Short Message Rely Protocol (SM RP) encoding.</p> |

| Field | Description |
|--------------------------|---|
| CP Data Inv TID | <p>Tunnel Identifier (TID) is an identity provided by the GPRS Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI.</p> <p>A Control Protocol message is composed of</p> <ul style="list-style-type: none"> • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) <p>This specifies total number messages with invalid transaction identifier.</p> |
| Max Returns Reached | Total number of messages that have completed the maximum allowed retransmission attempts. |
| SMSC Addr Restricted | Total number of restricted Short Message Service Center (SMSC) addresses. |
| MO SMSC Addr Restricted | Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network. |
| MT SMSC Addr Restricted. | Total number of SMSC address restricted for the Mobile Terminated (MT) messages, i.e. the messages that are being sent from network to MS. |
| GMM Interaction Stats | <p>GMM interaction statistics comprises GPRS Mobility Management (GMM) entities in the network. It includes:</p> <ul style="list-style-type: none"> • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication |
| Page Request Sent | The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network. |
| Page Response Successful | Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode. |

| Field | Description |
|---------------------------------|---|
| Page Response Fail | Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode. |
| Release Indication | GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network. |
| Release Indication Waiting (MO) | These are number of release indications waiting to be delivered for MO messages such as: <ul style="list-style-type: none"> • MO CP Ack • MO CP Data • MO CP ERR |
| MO CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered. |
| MO CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered. |
| MO CP ERR Delivery | Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered. |
| Release Indication Waiting (MT) | These are total number of release indications waiting to be delivered for MT messages such as: <ul style="list-style-type: none"> • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR |
| MT GMM Connection | Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections. |
| MT CP Data Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered. |

| Field | Description |
|-----------------------|---|
| MT CP Ack Delivery | Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered. |
| MT CP Err Delivery | Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered. |
| MT- SMS Failures | Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: <ul style="list-style-type: none"> • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full |
| IMSI Record not Found | Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record. |
| Busy Subscriber | Total number of SMS messages that failed to reach the MS due to busy status of the subscriber. |
| Detached Subscriber | Total number of SMS messages that failed to reach MS because the intended subscriber was detached. |
| MT Queue Full | Total number of SMS messages that failed to reach MS because the MT message queue was full. |



CHAPTER 134

show smsc-service

This chapter includes the **show smsc-service** command output tables.

- [show smsc-service name <smc_svc_name>](#), on page 2113
- [show smsc-service statistics all](#), on page 2113
- [show smsc-service statistics summary](#), on page 2115

show smsc-service name <smc_svc_name>

Table 540: show smsc-service name <smc_svc_name> Command Output Descriptions

| Field | Description |
|---------------------|--|
| Service name | The name of the configured SMSC service. |
| Context | The name of the context in which SMSC service is configured. |
| Status | The status of the SMSC service. |
| Diameter endpoint | The configured Diameter endpoint name. |
| Diameter dictionary | The configured Diameter dictionary. |
| Tmsi | The configured TMSI value. |
| Non-broadcast-Lai | The configured non-broadcast MCC, MNC, and LAC values. |
| MME-address | The configured MME address. |

show smsc-service statistics all

Table 541: show smsc-service statistics all Command Output Descriptions

| Field | Description |
|----------------|-------------|
| Session Stats: | |

| Field | Description |
|------------------------|---|
| Total Current Sessions | The total number of current SMSC sessions. |
| Sessions Failovers | The number of SMSC session failovers. |
| Total Starts | The total number of SMSC session starts. |
| Total Session Updates | The total number of SMSC session updates. |
| Total Terminated | The total number of terminated SMSC sessions. |
| Message Stats: | |
| Total Messages Rcvd | The total number of messages received. |
| Total Messages Sent | The total number of messages sent. |
| OF Request | The total number of OF requests. |
| OF Answer | The total number of OF answers. |
| OFR Retries | The total number of OFR retries. |
| OFR Timeouts | The total number of OFR timeouts. |
| OFA Dropped | The total number of OFA dropped. |
| TF Request | The total number of TF requests. |
| TF Answer | The total number of TF answers. |
| TFR Retries | The total number of TFR retries. |
| TFA Timeouts | The total number of TFA timeouts. |
| TFA Dropped | The total number of TFA dropped requests. |
| AL Request | The total number of AL requests. |
| AL Answer | the total number of AL answers. |
| ALR Retries | Displays the total number of ALR retries. |
| ALR Timeouts | The total number of ALR timeouts. |
| ALA Dropped | Displays the total number of ALA dropped. |
| Message Error Stats: | |
| Unable To Comply | The total number of message errors containing the result code "Unable To Comply". |
| User Unknown | The total number of message errors containing the result code "User Unknown". |

| Field | Description |
|----------------------|---|
| User Absent | The total number of message errors containing the result code "User Absent". |
| User Illegal | The total number of message errors containing the result code "User Illegal". |
| SM Delivery Failure | The total number of message errors containing the result code "SM Delivery Failure". |
| User Busy for MT SMS | The total number of message errors containing the result code "User Busy for MT SMS". |
| Other Errors | the total number of message errors containing the result code "Other Errors". |
| Bad Answer Stats: | |
| Auth-Application-Id | The absence or unexpected value in Auth-Application-Id AVP. |
| Session-Id | The absence or unexpected value in Session-Id AVP. |
| Origin-Host | The absence of Origin-Host AVP. |
| Origin Realm | The absence of Origin-Realm AVP. |
| Parse-Message-Errors | The total number of parse errors in the message. |
| Parse-Mscs-Errors | The total number of parse errors in MSCS AVP. |
| Miscellaneous | The total number of other miscellaneous errors. |

show smsc-service statistics summary

Table 542: show smsc-service statistics summary Command Output Descriptions

| Field | Description |
|------------------------|---|
| SMSC Session Stats: | |
| Total Current Sessions | The total number of current SMSC sessions. |
| Sessions Failovers | The total number of SMSC session failovers. |
| Total Starts | The total number of SMSC session starts. |
| Total Session Updates | The total number of SMSC session updates. |
| Total Terminated | The total number of terminated SMSC sessions. |



CHAPTER 135

show sndcp-statistics

This chapter describes the output of the **show sndcp-statistics** command variants.

- [show sndcp statistics verbose, on page 2117](#)

show sndcp statistics verbose

Table 543: show sndcp statistics verbose Command Output Descriptions

| Field | Description |
|-------------------------|---|
| SND CP Data Statistics: | |
| Un-Acknowledged mode: | |
| SN-PDUs received | <p>Description: This proprietary counter indicates the total number of SN-PDUs received by SND CP.</p> <p>Triggers: Increments when an SN-PDU is received by SND CP.</p> <p>Availability: per SGSN service</p> |
| SN-PDU Bytes received | <p>Description: This proprietary counter indicates the total number of SN-PDU bytes received by SND CP.</p> <p>Triggers: Increments when an SN-PDU is received by SND CP.</p> <p>Availability: per SGSN service</p> |
| SN-PDUs dropped | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SND CP due to various reasons.</p> <p>Triggers: Increments when SN-PDUs are dropped at SND CP for various error cases as explained by the specific Drop reason counters below.</p> <p>Availability: per SGSN service</p> |

| Field | Description |
|-------------------------|---|
| SN-PDU Bytes dropped | <p>Description: This proprietary counter indicates the total number of SN-PDU bytes dropped at SNDCP due to various reasons.</p> <p>Triggers: Increments when SN-PDUs are dropped at SNDCP for various error cases as explained by the specific Drop reason counters below.</p> <p>Availability: per SGSN service</p> |
| SN-PDU Drop Reason: | |
| Invalid SAPI State | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to invalid SAPI state.</p> <p>Triggers: Increments when SN-PDUs are received in invalid SAPI state.</p> <p>Availability: per SGSN service</p> |
| Invalid PDP Ctx | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to invalid PDP context.</p> <p>Triggers: Increments when SN-PDUs are received by a non-existent PDP Context or non-existent subscriber.</p> <p>Availability: per SGSN service</p> |
| Decode Failure | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to decode failure.</p> <p>Triggers: Increments when Decode failures occur for SN-PDUs.</p> <p>Availability: per SGSN service</p> |
| Reassembly Drops: | |
| Discard State | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP in discard state.</p> <p>Triggers: Increments when SN-PDUs are dropped and an unexpected segment is received to enter discard state. SNDCP entity expects either a first segment or subsequent segment. Reception of last segment clears this state.</p> <p>Availability: per SGSN service</p> |
| Rx First Seg State | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP in Receive First Segment state.</p> <p>Triggers: In receive first segment state, only first segment of N-PDU is expected. If subsequent segmented is received, it is dropped with this reason and enters discard state.</p> <p>Availability: per SGSN service</p> |
| Rx Subsequent Seg State | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to reassembly failure.</p> <p>Triggers: In receive subsequent segment state, only subsequent segments of N-PDU are expected. If first segment is received, it is dropped with this reason and enters discard state.</p> <p>Availability: per SGSN service</p> |

| Field | Description |
|--------------------|--|
| New First Segment | <p>Description: This proprietary counter indicates the total number of buffered SN-PDUs dropped at SNDTCP due to reception of new N-PDU.</p> <p>Triggers: Increments when reception of new N-PDU drops buffered SN-PDUs, if any with this reason.</p> <p>Availability: per SGSN service</p> |
| Reassembly Failure | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to reassembly failure.</p> <p>Triggers: Increments when SN-PDUs are dropped at SNDTCP due to reassembly failure.</p> <p>Availability: per SGSN service</p> |
| Reassembly Timeout | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to reassembly timeout.</p> <p>Triggers: Increments when the buffered segments are dropped and the last segment is not received before reassembly timer expiry.</p> <p>Availability: per SGSN service</p> |
| DCOMP Error | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to DCOMP (Data Compression algorithm ID) error.</p> <p>Triggers: Increments when SN-PDUs are received with invalid DCOMP value or DCOMP value different from that negotiated between MS and SGSN.</p> <p>Availability: per SGSN service</p> |
| PCOMP Error | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to PCOMP (Protocol Header Compression algorithm ID).</p> <p>Triggers: Increments when SN-PDUs are received with invalid PCOMP value or PCOMP value different from that negotiated between MS and SGSN.</p> <p>Availability: per SGSN service</p> |
| PDP Ctx Modified | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to PDP modification.</p> <p>Triggers: Increments when buffered data segments (SN-PDUs) are dropped during PDP context modification.</p> <p>Availability: per SGSN service</p> |
| PDP Ctx Deleted | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to PDP deletion.</p> <p>Triggers: Increments when buffered data segments (SN-PDUs) are dropped at SNDTCP due to PDP context deletion.</p> <p>Availability: per SGSN service</p> |

| Field | Description |
|---------------|--|
| Other Reasons | <p>Description: This proprietary counter indicates the total number of SN-PDUs dropped at SNDTCP due to any other reason than those mentioned above.</p> <p>Triggers: Increments when buffered data segments (SN-PDUs) are dropped at SNDTCP due to other reasons than those mentioned above.</p> <p>Availability: per SGSN service</p> |



CHAPTER 136

show snmp

This chapter describes the output of the **show snmp** command.

- [show snmp accesses, on page 2121](#)
- [show snmp communities, on page 2122](#)
- [show snmp notifies, on page 2122](#)
- [show snmp server, on page 2123](#)
- [show snmp trap history, on page 2124](#)
- [show snmp trap statistics, on page 2125](#)

show snmp accesses

Table 544: show snmp accesses Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| SNMP Usage Statistics: | |
| Get PDUs Received | The number of SNMP Get request packet data units (PDUs) received by the system from the SNMP alarm server. |
| GetNext PDUs Received | The number of SNMP GetNext request packet data units (PDUs) received by the system from the SNMP alarm server. |
| Set PDUs Received | The number of SNMP Set request packet data units (PDUs) received by the system from the SNMP alarm server. |
| PduTooBig Errors | The number of errors that occurred due to the packet data unit being received is too large. |
| NoSuchName Errors | The number of errors that occurred due to the packet data unit being requested not existing in the system. For example, this error would be generated if an SNMP "GET" request was received for an OID that doesn't exist in the system. |
| BadValue Errors | The number of errors that occurred due to the receipt of a bad value. For example, this error would be generated if an SNMP "SET" operation provides an illegal value. |

| Field | Description |
|-----------------|--|
| GenError Errors | The number errors that occurred that could not be properly classified. For example, this error would be generated if the system receives a valid SNMP "GET" PDU requesting a piece of data about a card, however, the system experiences an internal error attempting to reach the card. |
| Agent started | The date and time when the SNMP agent was started. |

show snmp communities

Table 545: show snmp communities Command Output Descriptions

| Field | Description |
|----------------|--|
| Community Name | Displays the name of the SNMP community. |
| Access Level | Displays the access level – "read-only" or "read-write". |

show snmp notifies

Table 546: show snmp notifies Command Output Descriptions

| Field | Description |
|--|--|
| SNMP Notification Statistics: | |
| Total number of notifications | The total number of notifications that have been sent to the SNMP alarm server since notification was enabled. |
| Last notification sent | The last date and time that a notification was sent to the SNMP alarm server. |
| Notification sending is | Indicates whether the sending of notifications is enabled or disabled on the system. |
| Notifications have never been disabled | Indicates whether or not the sending of SNMP notifications has ever been disabled. |
| Notifications in current period | The number of notifications that have been sent to the SNMP alarm server during the current monitor period. |
| Notifications in previous period | The number of notifications that have been sent to the SNMP alarm server during the previous monitor period. |
| Notification monitor period | The duration of the monitor period in seconds. |
| Trap Name | The trap name. |

| Field | Description |
|--|--|
| #Gen | The number of times notifications were generated for the trap. |
| #Disc | The disc number. |
| Disable | The number of notifications disabled. |
| Last Generated | The last date and time that a notification generated. |
| Total number of notifications Disabled | The total number of notifications disabled. |

show snmp server

Table 547: show snmp server Command Output Descriptions

| Field | Description |
|----------------------------|---|
| SNMP Server Configuration: | |
| Server State | Identifies the current server state, for example "enabled". |
| SNMP Port | Identifies the SNMP port number. Default = 161. |
| sysLocation | Displays the System Location. |
| sysContact | Displays the System contact information. |
| authenticationFail traps | Indicates whether this trap is Enabled or Disabled. |
| EngineID | Displays the SNMP Engine identifier. |
| Runtime Debugging | Indicates whether SNMP runtime debugging is enabled (ON) or disabled (OFF). By default the setting is ON. |

| Field | Description |
|-------------------------------|---|
| Runtime Debug Token | Displays the numerical value(s) corresponding to SNMP DEBUGMSG tokens that have been enabled: <ul style="list-style-type: none"> • 1 = mib_init • 2 = parse-file • 3 = parse-mibs • 4 = read_config • 5 = snmp • 6 = snmpd • 7 = snmptrapd • 8 = trap • 9 = transport • 10 = usm • 11 = disman • 12 = agentx • 13 = dumph • 14 = init_mib |
| Alert Threshold | "<number> of alerts in <number> seconds" |
| Alert Low Threshold | "<number> of alerts in <number> seconds" |
| SNMP Agent Mib Configuration: | |
| <mib_name> | Lists available SNMP MIBs and whether they are Enabled or Disabled. |

show snmp trap history

Table 548: show snmp trap history Command Output Descriptions

| Field | Description |
|---|---|
| There are <> historical trap records (5000 maximum) | |
| Timestamp | Identifies the date and time the event trap was generated. |
| Trap Information | Shows the trap notification number and the associated device. |

show snmp trap statistics

Table 549: show snmp trap statistics Command Output Descriptions

| Field | Description |
|--|--|
| SNMP Notification Statistics: | |
| Total number of notifications | The total number of notifications sent to the SNMP alarm server since notification was enabled. |
| Last notification sent | The last date and time that a notification was sent to the SNMP alarm server. |
| Notification sending is | Indicates whether notification sending is enabled/disabled. |
| Notifications have never been disabled | Indicates whether notification sending was ever disabled. |
| Notifications have never been cleared | Indicates whether notification sending was ever cleared. |
| Notifications in current period | The number of notifications that have been sent to the SNMP alarm server during the current monitor period. |
| Notifications in previous period | The number of notifications that have been sent to the SNMP alarm server during the previous monitor period. |
| Notification monitor period | The duration of the monitor period in seconds. |
| Trap Name | The trap name. |
| #Gen | The number of times notifications were generated for the trap. |
| #Disc | The disc number. |
| Disable | The number of notifications disabled. |
| Last Generated | The last date and time that a notification generated. |
| Total number of notifications Disabled | The total number of notifications disabled. |



CHAPTER 137

show software authenticity

This chapter describes the output of the **show software authenticity** command.

- [show software authenticity file](#), on page 2127
- [show software authenticity keys](#), on page 2128
- [show software authenticity running](#), on page 2128

show software authenticity file

Table 550: show software authenticity file Command Output Descriptions

| Field | Description |
|--|--|
| Authenticity Information | |
| Image Type | States the type of image. |
| Signer Information | |
| Common Name | CiscoSystems |
| Organizational Unit | StarOS |
| Organizational Name | CiscoSystems |
| Certificate Serial Number | Number assigned to the certificate. |
| Hash Algorithm | Type of algorithm used for hashing, such as SHA512. |
| Signature Algorithm | Type of algorithm used to sign this image, such as 2048-bit RSA. |
| Key Version | The version of the key used to generate the signature. |
| Validating digital signature, please wait ... done | This image is <not> authenticate. |

show software authenticity keys

Table 551: show software authenticity keys Command Output Descriptions

| Field | Description |
|---------------------|--|
| Primary Public Key | #1 or #2 |
| Backup Public Key | #3 or #4 |
| Key Type | States the type of key, such as Released. |
| Key Algorithm | The algorithm used to generate the signature key, such as RSA. |
| Modulus (256 bytes) | Displays the encrypted text corresponding to the public key. Messages encrypted with the public key can only be decrypted using the private key. |
| Exponent (4 bytes) | The exponent used in modular exponentiation of the public key. |
| Key Version | The version of the algorithm used by Release Engineering to sign the starfile image. |
| Product Name | StarOS |

show software authenticity running

Table 552: show software authenticity running Command Output Descriptions

| Field | Description |
|---------------------------|--|
| SYSTEM IMAGE | |
| Image Type | States the type of image. |
| Signer Information | |
| Common Name | CiscoSystems |
| Organizational Unit | StarOS |
| Organizational Name | CiscoSystems |
| Certificate Serial Number | Number assigned to the certificate. |
| Hash Algorithm | Type of algorithm used for hashing, such as SHA512. |
| Signature Algorithm | Type of algorithm used to sign this image, such as 2048-bit RSA. |

| Field | Description |
|---------------------------|--|
| Key Version | The version of the key used to generate the signature. |
| Verifier Information | |
| Verifier Name | Firmware = CFE3 ROM |
| Verifier Version | Firmware release number |
| CFE3 ROM | |
| Image Type | States the type of image. |
| Signer Information | |
| Common Name | CiscoSystems |
| Organizational Unit | StarOS |
| Organizational Name | CiscoSystems |
| Certificate Serial Number | Number assigned to the certificate. |
| Hash Algorithm | Type of algorithm used for hashing, such as SHA512. |
| Signature Algorithm | Type of algorithm used to sign this image, such as 2048-bit RSA. |
| Key Version | The version of the key used to generate the signature. |
| Verifier Information | |
| Verifier Name | Firmware = BIOS/UEFI |
| Verifier Version | Firmware release number |
| BIOS3 | |
| Image Type | States the type of image. |
| Signer Information | |
| Common Name | CiscoSystems |
| Organizational Unit | StarOS |
| Organizational Name | CiscoSystems |
| Certificate Serial Number | Number assigned to the certificate. |
| Hash Algorithm | Type of algorithm used for hashing, such as SHA512. |
| Signature Algorithm | Type of algorithm used to sign this image, such as 2048-bit RSA. |
| Key Version | The version of the key used to generate the signature. |

| Field | Description |
|----------------------|----------------|
| Verifier Information | |
| Verifier Name | Microloader |
| Verifier Version | Release number |



CHAPTER 138

show srp

This chapter describes the outputs of the **show srp** command.

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- [show srp call-loss statistics](#), on page 2133
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show srp audit-statistics

Table 553: show srp audit-statistics Command Output Descriptions

| Field | Description |
|--------------------|---|
| Message statistics | |
| Audit Request | |
| sent | Displays the number of audit requests sent. |
| received | Displays the number of audit requests received. |
| dropped | |
| decode error | Displays the number of audit requests dropped due to decode error. |
| invalid state | Displays the number of audit requests dropped due to invalid state. |
| Audit Response | |
| sent | Displays the number of audit responses sent. |
| received | Displays the number of audit responses received. |

| Field | Description |
|-------------------------------|--|
| dropped | |
| decode error | Displays the number of audit responses dropped due to decode error. |
| invalid state | Displays the number of audit responses dropped due to invalid state. |
| Session statistics | |
| Audit-2 as standby started at | Displays a time stamp for when the standby chassis audit began and the amount of time it took to finish. |
| Audit round trip time | Displays audit round trip time. |
| Audit triggered by switchover | Displays whether audit was triggered by a switchover. |
| Active sessions | Displays the number of active sessions and their percentage of total calls. |
| New sessions | Displays the number of new sessions and their percentage of total calls. |
| Stale sessions | Displays the number of stale sessions and their percentage of total calls. |
| Inactive sessions | Displays the number of inactive sessions and their percentage of total calls. |
| Audit-1 as active started at | Displays a time stamp for when the active chassis audit began and the amount of time it took to finish. |
| Audit round trip time | Displays audit round trip time. |
| Audit triggered by switchover | Displays whether audit was triggered by a switchover. |
| Active sessions | Displays the number of active sessions and their percentage of total calls. |
| New sessions | Displays the number of new sessions and their percentage of total calls. |
| Stale sessions | Displays the number of stale sessions and their percentage of total calls. |
| Inactive sessions | Displays the number of inactive sessions and their percentage of total calls. |

show srp call-loss statistics

Table 554: show srp call-loss statistics Command Output Descriptions

| Field | Description |
|--|--|
| Switchover-n | Identifies the switchover by number. |
| Started at | Displays the timestamp for when the switchover was initiated. |
| took | Displays how many seconds the switchover took to finish. |
| Switchover Reason | Indicates the reason for the switchover: <ul style="list-style-type: none"> • Manual Switchover • AAA failure • BFD failure • BGP failure • Chassis-Chassis BFD failure • Dead Timer Expiry • Diameter failure • Dual Active • Dual Standby • HSRP switchover (WSG/SecGW service only) • Not Defined (replaces "Unknown") |
| Total number of active calls at switchover time | Displays the total number of active calls on this chassis when the switchover was initiated. |
| Total number of VoLTE capable subscribers | Displays the total number of subscribers with VoLTE capable phones that were on the system when the switchover was initiated. |
| Total number of subscribers engaged in voice calls | Displays the total number of subscribers that were on voice calls when the switchover was initiated. |
| Total number of lost calls at switchover time | Displays the number of calls that were lost on this chassis during the switchover. |
| Chkpt never sent | Displays the total number of checkpoints that were never sent by the chassis during the switchover. |
| Chkpt failed | Displays the total number of checkpoints that this chassis failed to receive during the switchover. |

show srp checkpoint info

Table 555: show srp checkpoint info Command Output Descriptions

| Field | Description |
|----------|--|
| CMD ID | Displays the checkpoint number associated with the micro-checkpoint. |
| NAME | Displays the name assigned to the micro-checkpoint. |
| CRITICAL | Indicates whether or not the micro-checkpoint is in a critical state (Yes or No). |
| STATS | Indicates whether or not audit statistics are available for the micro-checkpoint (Yes or No). |
| NACK | Indicates whether or not NACK messaging from the standby chassis has been disabled for the micro-checkpoint (Enable or Disable). |

show srp checkpoint statistics

Table 556: show srp checkpoint statistics Command Output Descriptions

| Field | Description |
|--|---|
| The following statistics indicates the state of session managers on the chassis. For ideal invocation of SRP procedures, the SessMgr state should *-Connected state. | |
| Number of Sessmgrs | Displays the total number of session managers |
| Sessmgrs in Active-Connected state | Displays the number of session managers in the active-connected state. |
| Sessmgrs in Standby-Connected state | Displays the number of session managers in the standby-connected state. |
| Sessmgrs in Pending-Active state | Displays the number of sessions managers in the pending-active state. |
| These statistics indicate the conversion status of checkpoint information on the standby chassis. | |
| Current Call Recovery Records (CRRs) | Displays the number of current call recovery records. |
| Current pre-allocated calls | Displays the number of pre-allocated calls. |
| The following statistics are indicative of the status of various kinds of SRP message exchanges between active and standby chassis. | |

| Field | Description |
|--|--|
| Total id-mapping checkpoint rcvd | Displays the total number of id-mapping checkpoints received by the chassis. |
| Total APN id-mapping chkpnt rcvd | Displays the total number of APN id-mapping checkpoints received by the chassis. |
| Total SFW id-mapping chkpnt rcvd | Displays the total number of SFW (Stateful Firewall) checkpoints received by the chassis. |
| Total sync rcvd | Displays the total number of sync messages received by the chassis. |
| Total sync-ack rcvd | Displays the total number of sync acknowledgement messages received by the chassis. |
| Total full session checkpoint rcvd | Displays the total number of complete session information checkpoints received by the chassis. |
| Total nat-ips add rcvd | Displays the total number of NAT IP address additions received by the chassis. |
| Total nat-ips delete rcvd | Displays the total number of NAT IP address deletions received by the chassis. |
| Total micro session checkpoint rcvd | Displays the total number of incremental micro session information checkpoints received. |
| Total inv-crr micro-chkpnt rcvd | Displays the total number of session teardown indication micro-checkpoints received. |
| total perf provided info micro-chkpnt rcvd | Displays the total number of PCRF provided MCC-MNC related information for P-GW and GGSN micro-checkpoints received. |
| Total call-stats micro-chkpnt rcvd | Displays the total number of call statistics update micro-checkpoints received. |
| Total nat-ips micro-chkpnt rcvd | Displays the total number of NAT-IP micro-checkpoints received at standby. |
| Total nat-ips add rcvd | Displays the total number of NAT IP address additions received at standby. |
| Total nat-ips delete rcvd | Displays the total number of NAT IP address deletions received at standby. |
| Total nat-port micro-chkpnt rcvd | Displays the total number of NAT port micro-checkpoints received at standby. |
| Total nat-bypass micro-chkpnt rcvd | Displays the total number of NAT-Bypass Micro-checkpoints received at standby. |
| Total acs-sess-info micro-chkpnt rcvd | Displays the total number of Active Charging Service (ACS) session information Micro-checkpoints received. |

| Field | Description |
|--|---|
| Total dyn-rule micro-chkpnt rcvd | Displays the total number of dynamic rules received and checkpointed to the standby chassis respectively. |
| Total gx-li micro-chkpnt rcvd | Displays the total number of LI session information, as enabled from Gx, received at standby counter. |
| Total Instance checkpoint rcvd | Displays the total number of PCRF-generated policy information as received session independent at standby. |
| Total dyn-rule-instance micro-chkpnt rcvd | Displays the total number of session specific policy received counter. |
| Total dyn-rule-instance delete micro-chkpnt rcvd | Displays the total number of session specific policy remove counter. |
| Total dyn-rule-instance ACK rcvd | Displays the total number of session independent information acknowledged from standby counter. |
| Total id-mapping checkpoint sent | Displays the total number of configuration specific id mapping for VPN/VRF context ids, service ids, and APN ids as sent to standby. |
| Total APN id-mapping chkpt sent | Displays the total number of configuration specific id mapping for APN ids as sent to standby. |
| Total SFW id-mapping chkpt sent | Displays the total number of configuration specific id mapping for SFW ids as sent to standby. |
| Total sync sent | Displays the total number of SYN message received counter. |
| Total sync-ack sent | Displays the total number of SYN Ack received counter. |
| Total full session checkpoint sent | Displays the total number of full session checkpoints sent by the chassis. |
| Total nat-ip add sent | Displays the total number of NAT-IP add sent counter to standby. |
| Total full chkpnt encoding failures | Displays the total number of complete session information formation failure counter primarily due to release of the session at active |
| Total micro session checkpoint sent | Displays the total number of micro session checkpoints sent by the chassis. |
| Total inv-crr micro-chkpnt sent | Displays the total number of invalid CRR micro checkpoints sent. |
| total perf provided info micro-chkpnt sent | Displays the total number of PCRF provided MCC-MNC related information for P-GW and GGSN micro-checkpoints sent. |
| Total call-stats micro-chkpnt sent | Displays the total number of call statistics micro checkpoints sent. |
| Total nat-ip micro-chkpnt sent | Displays the total number of NAT-IP Micro-checkpoint sent from active. |

| Field | Description |
|---|---|
| Total nat-ip add sent | Displays the total number of NAT-IP address addition indications to standby. |
| Total nat-ip delete sent | Displays the total number of NAT-IP address deletion indications to standby. |
| Total nat-port micro-chkpnt sent | Displays the total number of NAT-Port Micro-checkpoint sent from active. |
| Total nat-bypass micro-chkpnt sent | Displays the total number of NAT-Bypass Micro-checkpoint sent from active. |
| Total acs-sess-info micro-chkpnt sent | Active Charging Service (ACS) specific session information as sent to standby. |
| Total dyn-rule micro-chkpnt sent | Displays the total number of dynamic rules sent and checkpointed to the standby chassis respectively. |
| Total gx-li micro-chkpnt sent | LI session information sent from active. |
| Total instance micro-chkpnt sent | PCRF generated policy information as sent session independent from active. |
| Total dyn-rule-instance micro-chkpnt sent | Session specific policy add sent counter at active. |
| Total dyn-rule-instance delete micro-chkpnt sent | Session specific policy remove sent counter from active. |
| Total dyn-rule-instance ACK sent | Session independent information acknowledgements sent from standby counter. |
| Total micro chkpnt encoding failures | Incremental session information failed to be sent due to bad encoding at active. |
| Total instance micro chkpnt encoding failures | PCRF generated policy encoding failed while being sent session independent from active. |
| Total ipsec non urgent micro-chkpnt rcvd from active chassis serial number mismatch | Non-urgent IPsec micro-checkpoint received from Active Chassis with serial number mismatch. |
| Total ipsec urgent micro-chkpnt rcvd from active chassis serial number mismatch | Urgent IPsec micro-checkpoint received from Active Chassis with serial number mismatch. |
| sessmgr --> ipsecmgr checkpoint queue stats | Displays sessmgr to ipsecmgr queue statistics. <ul style="list-style-type: none"> • Imgr • QFull • UQFull (Urgent Queue) • QLen • UQLen • QSent • UQSent • TotalMsgSent |

| Field | Description |
|---|---|
| sessmgr --> aaamgr ipsec checkpoint queue stats | Displays sessmgr to aaamgr queue statistics.gr to ipsecmgr queue statistics. <ul style="list-style-type: none"> • Amgr • QFull • UQFull (Urgent Queue) • QLen • UQLen • QSent • UQSent • TotalMsgSent |
| Total micro-chkpnt to send dropped full-chkpnt not sent | Displays number of unsent micro- checkpoints due to dropped full checkpoints. |
| Total micro-chkpnt to send dropped srp state not active | Displays number of unsent micro- checkpoints that were dropped because SRP state was not Active. |
| Total micro-chkpnt to send deleted from chkpnt queue | Displays number of unsent micro-checkpoints that were deleted from the checkpoint queue. |
| Session full checkpoint never sent | Displays the number of calls which failed to send out complete session information. |
| Total Macro chkpnt Nack Sent | Displays the number of NACKs sent from Standby due to macro-checkpoint failure. |
| Total Micro chkpnt Nack Sent | Displays the number of NACKs sent from Standby due to micro-checkpoint failure. |
| Coherency_key mismatch | Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason coherency_key mismatch. |
| Micro-Checkpoint failed to apply | Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason application failure. |
| Session Not Found | Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason session failure. |
| Total Macro chkpnt Nack Rcvd: | Displays the number of NACKs received from Standby due to macro-checkpoint failure. |
| Total Micro chkpnt Nack Rcvd | Displays the number of NACKs received from Standby due to micro-checkpoint failure. |
| Coherency_key mismatch | Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason coherency_key mismatch. |
| Micro-Checkpoint failed to apply | Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason application failure. |

| Field | Description |
|-----------------------------------|---|
| Session Not Found | Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason session failure. |
| Standby call pre-alloc failures | Displays the number of standby call pre allocation failures. |
| table-id mapping failures | Displays the number of table id mapping failures. |
| vpn-id mapping failures | Displays the number of decode failures due to not finding matching vpn information on standby. |
| svc-id mapping failures | Displays the number of decode failures due to not finding matching service information on standby. |
| ntwk-id mapping failures | Displays the number of decode failures due to not finding matching ggsn network information on standby. |
| demux-mapping-id failures | Displays the number of decode failures due to not finding matching demux information on standby. |
| tpo-policy-mapping-id failures | NOTE: The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |
| aaa session failures | Displays the number of AAA session failures. |
| recovery record alloc failures | Displays the number of recovery record allocation failures. |
| pre-allocate vpnmgr failure | Pre-allocation of callines at standby failed due to VPN IP address allocation. |
| Ipv4 failure | Pre-allocation of callines at standby failed due to VPN IPv4 address allocation. |
| Ipv4 Prefix failure | Pre-allocation of callines at standby failed due to VPN IPv4 prefix address allocation. |
| Ipv6 failure | Pre-allocation of callines at standby failed due to VPN IPv6 address allocation. |
| pre-allocate vpnmgr msg failure | Pre-allocation of callines at standby failed due to VPN messaging issues. |
| pre-allocate demuxmgr failure | Pre-allocation of callines at standby failed due to demux failure. |
| pre-allocate demuxmgr msg failure | Pre-allocation of callines at standby failed due to demux messaging issues. |
| Standby micro-checkpoint failures | Displays the number of standby micro checkpoint failures. |
| recovery record not found | Displays the number of recovery records not found. |
| nat-ip uchkpt failed | The number of NAT IP micro-checkpoint failures. |
| nat-port uchkpt failed | The number of NAT port micro-checkpoint failures. |

| Field | Description |
|--|---|
| nat-bypass uchkpt failed | The number of NAT bypass micro-checkpoint failures. |
| The following are audit statistics done as part of the switchover--conversion of session information failures as reported at standby going active. | |
| Total CRR recovery failures | Displays the total number of Call Recovery Record (CRR) call recovery failures. |
| audit-npumgr-failure | Audit of npumgr failures. |
| audit-npumgr-nat-flow-failure | Audit of npumgr NAT flow failures. |
| audit-npumgr-nat-bypass-flow-failure | Audit of npumgr NAT bypass flow failures. |
| audit-vpnmgr-failure | Audit of vpnmgr failures. |
| audit-vpnmgr-nat-ip-failure | Audit of vpnmgr NAT IP failures. |
| audit-demuxmgr-failure | Audit of demuxmgr failures for all demux managers. |
| For the next three audit statistics, if all three audits fail for a single call, only the counter for the first failure will be incremented. Total audit failure count will remain one (not three). There is no double counting. | |
| audit-egtpinmgr-imsi-failure | Audit of EGTP inbound IMSI failures following an Interchassis Session Recovery (ICSR) switchover. |
| audit-egtpinmgr-gtpc-failure | Audit of EGTP inbound GTPC failures following an ICSR switchover. |
| audit-gtpumgr-failure | Audit of gtpumgr failures following an ICSR switchover. |
| audit-aaamgr-failure | Audit of aaamgr failures. |
| audit-ipsecmgr-failure | Audit of ipsecmgr failures. |
| audit-dgmbmgr-failure | Audit of dgmbmgr failures. |
| audit-mcast-proxy-failure | Audit of mcast proxy failures. |
| audit-igmp-proxy-failure | Audit of igmp proxy failures. |
| audit-unsupported-sess-type | Audit of unsupported session type failures. |
| recovery-undefined-fail | The call recovery failed due to undefined reason. |
| recovery-invalid-crr | The call recovery failed due to invalid CRR. |
| recovery-missing-info | The call recovery failed due to missing information. |
| recovery-quota-reached | The call recovery failed due to quota reached. |
| recovery-set-acs-sess-info-failure | The call recovery failed due to set ACS session information. |
| recovery-acs-sfw-policy-failure | The call recovery failed due to ACS SFW policy. |

| Field | Description |
|-------------------------------------|---|
| recovery-ucheckpt-failure | The call recovery failed due to Micro-checkpoint. |
| recovery-service-not-found | The call recovery failed due to service not found. |
| recovery-restart-counter-mismatch | The call recovery failed due to restart counter mismatch. |
| recovery-aaa-sub-session-mismatch | The call recovery failed due to aaa sub session mismatch. |
| recovery-crr-no-aaa-session | The call recovery failed due to CRR no aaa session. |
| recovery-crr-aaa-session-not_found | The call recovery failed due to CRR aaa session not found. |
| recovery-flow-buffer-null | The call recovery failed due to flow buffer null. |
| recovery-invalid-flow-id | The call recovery failed due to invalid flow ID. |
| recovery-flow-id-in-use | The call recovery failed due to flow ID in use. |
| recovery-callline-alloc-failure | The call recovery failed due to callline allocation. |
| recovery-ipv6-session-alloc-failure | The call recovery failed due to IPv6 session allocation. |
| recovery-no-apn-group-stats-entry | The call recovery failed due to no APN group statistics. |
| recovery-apply-aaa-config-failure | The call recovery failed due to application of aaa configuration. |
| recovery-sub-session-alloc-failure | The call recovery failed due to sub session allocation. |
| recovery-nat-failure | The call recovery failed due to NAT. |
| recovery-set-dst-vpn-failure | The call recovery failed due to set destination VPN. |
| recovery-vpn-not-found | The call recovery failed due to VPN not found. |
| recovery-access-side-failure | The call recovery failed due to access side. |
| recovery-network-side-failure | The call recovery failed due to network side. |
| recovery-peer-callline-failure | The call recovery failed due to peer callline. |
| recovery-li-failure | The call recovery failed due to LI. |
| recovery-css-failure | The call recovery failed due to CSS. |
| recovery-uchkpt-alloc-failure | The call recovery failed due to Micro-checkpoint allocation. |
| recovery-acs-dyn-rule_failure | The call recovery failed due to ACS dynamic rule. |
| recovery-acs-acct-rule-failure | The call recovery failed due to ACS account rule. |
| recovery-prepaid-failure | The call recovery failed due to prepaid. |
| recovery-mipfa-failure | The call recovery failed due to mipfa. |
| call-recovery-stale-session | The call recovery failed due to stale session. |

| Field | Description |
|---|---|
| call-recovery-wrong-flow-type | The call recovery failed due to wrong flow type. |
| call-recovery-null-acct-session | The call recovery failed due to null account session. |
| call-recovery-wrong-acct-session-type | The call recovery failed due to wrong account session type. |
| call-recovery-null-acct-session | The call recovery failed due to null accounting session. |
| call-recovery-wrong-acct-session-type | The call recovery failed due to wrong type of accounting session. |
| recovery-accs-acct-dyn-chrg-update-qg-failure | The call recovery failed due to an ACS accounting dynamic charging QG update failure. |
| recovery-accs-acct-dyn-chrg-update-ca-failure | The call recovery failed due to an ACS dynamic charging CA update failure. |
| call-recovery-accs-internal-audit-failure | The call recovery failed due to an ACS internal audit failure. |
| Total CRR replace record | Total number of replaced CRRs (Call Recovery Records). |
| call-recovery-gtpu-teid-in_use | The call recoveries for in-use GTPU TEIDs (Tunnel Endpoint IDs). |
| call-recovery-egtpc-teid-in_use | The call recoveries for in-use EGTPC TEIDs. |
| NAT-NPU flow audit failures | The number of NAT NPU Flow audit failures. |
| NAT-IP Pool address audit failures | The number of NAT IP Flow audit failures. |
| NAT-Bypass flow audit failures | The number of NAT Bypass Flow audit failures. |
| Graceful call drops during audit failure | The number of calls dropped as a result of Audit Failure with require graceful-cleanup-during-audit-failure enabled. |

show srp info

Table 557: show srp info Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Service Redundancy Protocol | |
| Context | Displays the srp context configured for service redundancy protocol. Only one context may be configured with this service. |
| Local Address | Displays the local address of the chassis. |
| Chassis State | Displays the chassis state (init, standby or active). |
| Chassis Mode | Displays the chassis mode (primary or backup). |

| Field | Description |
|---------------------------------|---|
| Chassis Priority | Displays the chassis priority. The chassis priority is an integer that determines which chassis is in the active state. The lower number has a higher priority. The priority must be an integer from 1 through 255. Default is 125. |
| Local Tiebreaker | Displays the MAC address which is used to determine priority when both chassis have the same priority and route modifier. The lower MAC address has the higher priority. |
| Route-Modifier | Displays the modifier which is used to determine which chassis has priority. The lower the number the higher the priority. |
| DSCP Markings | Displays current settings for DSCP marking of SRP messages. |
| Control | Displays DSCP value set for SRP control messages. |
| Session | Displays DSCP value set for SRP checkpoint messages (session maintenance). |
| Peer Remote Address | Displays the IP address of the remote peer. |
| Peer State | Displays whether the peer is in the active or standby state. |
| Peer Mode | Displays the peer mode (standby or active). |
| Peer Priority | Displays the peer priority (primary or backup). |
| Peer Tiebreaker | Displays the peer MAC address. |
| Peer Route-Modifier | Displays the peer's BGP route modifier. |
| Last Hello Message received | Displays a time stamp for the most recent hello message that was received. |
| Peer Configuration Validation | Displays the peer configuration validation. |
| Last Peer Configuration Error | Displays the most recent error that was received when the chassis was not able to validate its peer configuration. |
| Last Peer Configuration Event | Displays a time stamp for the last peer configuration event. |
| Last Validate Switchover Status | Displays whether both active and standby systems are ready for a planned srp switchover. |
| Connection State | Displays the status of the redundancy link between the two chassis. |
| Next Peer Audit Scheduled | Displays minutes and seconds until next audit. |
| Peer Audit State | Displays current state of peer audit configuration. |
| Last Peer Audit Type | Displays the type of peer audit that was last run. |
| Last Peer Audit Successful | Indicates whether or not the last peer audit was successfully completed. |

| Field | Description |
|--|---|
| Feature Configured-status Operational-status | |
| allow-volte-data-traffic | Indicates system-level Configuration and Operational status of this feature as Enabled, Disabled or Mismatch. |
| allow-all-dat-traffic | Indicates system-level Configuration and Operational status of this feature as Enabled, Disabled or Mismatch. |

show srp monitor

Table 558: show srp monitor Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| Type: | (A) = Authentication Probe (B) = BGP (D) = Diameter (F) = Bidirectional Forwarding Detection |
| State: | (I) = Initializing (U) = Up (D) = Down |
| GroupId | SRP Peer Group Identifier (displayed as an integer from 0 through 9. Default = 0). |
| Auth. probe monitor | Displays the following authentication probe information: IP addr = IP address in IPv4 or IPv6 notation Port = Port number Context (VRF Name) Last Update |
| (AU) Auth. probe monitors up | Displays the number of authentication probe monitors in the active state. |
| (AD) Auth. probe monitors down | Displays the number of authentication probe monitors in the inactive state. |
| (AI) Auth. probe monitors init | Displays the number of authentication probe monitors in the initializing state. |
| BFD monitor | Displays BFD information. |

| Field | Description |
|-----------------------------|---|
| (FU) BFD monitors up | Displays the number of BFD monitors in the active state. |
| (FD) BFD monitors down | Displays the number of BFD monitors in the inactive state. |
| (FI) BFD monitors init | Displays the number of BFD monitors in the initializing state. |
| BGP monitor state | Displays the following BGP information: <ul style="list-style-type: none"> • IP addr = IP address in IPv4 or IPv6 notation • Port = Port number • Context (VRF Name) • Last • Update |
| (BU) BGP monitors up | Displays the number of BGP monitors in the active state. |
| (BD) BGP monitors down | Displays the number of BGP monitors in the inactive state. |
| (BI) BGP monitors init | Displays the number of BGP monitors in the initializing state. |
| DIAMETER monitor state | Displays the following Diameter server information: <ul style="list-style-type: none"> • Context • Endpoint Name • IPAddr (port)/FQDN • Last • Update |
| (DU) DIAMETER monitors up | Displays the number of Diameter monitors in the active state. |
| (DD) DIAMETER monitors down | Displays the number of Diameter monitors in the inactive state. |
| (DI) DIAMETER monitors init | Displays the number of Diameter monitors in the initializing state. |

show srp statistics

Table 559: show srp statistics Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Service Redundancy Protocol | |
| Peer Remote Address | The IP address for the redundant peer chassis. |
| Hello Messages Sent | The number of hello messages that were sent to the peer chassis. |

| Field | Description |
|---|---|
| Hello Message Received | The number of hello messages received from the peer chassis. |
| Hello Messages Discarded | The number of discarded hello messages. |
| Configuration Validation Messages Sent | The number of configuration validation messages sent to the peer. |
| Configuration Validation Message Received | The number of configuration validation messages received from the peer chassis. |
| Configuration Validation Messages Discarded | The number of discarded configuration validation messages. |
| Resource Messages Sent | The number of resource messages sent to the peer chassis. |
| Resource Messages Received | The number of resource messages received from the peer chassis. |
| Resource Messages Discarded | The number of discarded resource messages. |
| Switchover Req Messages Sent | The number of switchover request messages sent to the peer chassis. |
| Switchover Req Messages Received | The number of switchover request messages received from the peer chassis. |
| Switchover Rsp Messages Sent | The number of switchover response messages sent to the peer chassis. |
| Switchover Rsp Messages Received | The number of switchover response messages received from the peer chassis. |
| Switchover Messages Discarded | The number of discarded switchover messages. |
| Switchover Events | The number of switchover events, where one chassis went from active to inactive and the other chassis went from inactive to active. |
| CMP Data Messages Sent | The number of Certificate Management Protocol (CMP) data messages sent. (RFC 4210) |
| CMP Data Messages Received | The number of CMP data messages received. |



CHAPTER 139

show ss7-routing-domain

This chapter describes the outputs of the **show ss7-routing-domain** command.

- [show ss7-routing-domain, on page 2147](#)

show ss7-routing-domain

Table 560: show ss7-routing-domain Command Output Descriptions

| Field | Description |
|------------------------|--|
| Peer Server Id | Indicates the peer server identifier. |
| Peer Server Process Id | Indicates the peer server process identifier. |
| Association State | Indicates the status of associated link. |
| Source Address | Indicates the IP address of source node/s. |
| Destination Address | Indicates the IP address of destination node/s. |
| Path Status | Indicates the status of established paths between source and destination node. |



CHAPTER 140

show subscribers

This chapter includes the **show subscribers** command output tables.

- [show subscribers aaa-configuration](#), on page 2150
- [show subscribers access-flows](#), on page 2151
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- [show subscribers summary without-override-control](#), on page 2289
- [show subscribers wf1 all](#), on page 2299
- [Common Attributes](#), on page 2300

show subscribers aaa-configuration

Table 561: show subscribers aaa-configuration Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| Username | Specifies the name of the subscriber. |
| Status | Indicates the status of the subscriber's session. The status can be Online or Offline and Active or Dormant. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Access Type | Indicates the type of access for this subscriber. See |
| Network Type | Displays the type of network connection for this subscribers session. See |
| Access Tech | Represents the Access Technology . See |
| callid | Displays the subscriber's call identification number (callid). |
| msid | Displays the subscriber's mobile station identification (MSID). |
| imsi | Displays the subscriber's international mobile subscriber identity (IMSI). |
| AAA Information and Attributes | A list of AAA information attributes and their configuration for the specified session. For additional information on these attributes, if you are using StarOS 12.3 or an earlier release, refer to the <i>AAA and GTPP Interface Administration and Reference</i> . If you are using StarOS 14.0 or a later release, refer to the <i>AAA Interface Administration and Reference</i> . |

show subscribers access-flows

Table 562: show subscribers access-flows Command Output Descriptions

| Field | Description |
|--------------|--|
| Access-Tech | Indicates the session type for this subscriber. See |
| Type | Indicates the access flow type as one of the following: <ul style="list-style-type: none"> - Static - Dynamic - Pre-provisioned - Accounting |
| Direction | Indicates the flow direction as Forward/Uplink or Reverse/Downlink. |
| Link Status | Indicates the status of the flow as one of the following: <ul style="list-style-type: none"> - Online/Active - Dormant/idle - Not Applicable |
| Flow State | Indicates the state of the flow as Active or Inactive. |
| Flow Mapping | Indicates the mapping of the flow as one of the following: <ul style="list-style-type: none"> - Mapped - Unmapped - Not Applicable |
| Network Type | Indicates the session Network Type. See |
| MSID | Displays the subscriber's mobile station identification (MSID). |
| ID | Indicates the unique identification number for the flow. |
| SRID | Indicates the service flow identifier for this subscriber. |
| PDFID | Indicates the packet data flow identifier for this subscriber. |
| PROFID | Indicates the QoS profile identifier for this subscriber. |
| PACKETS | Indicates the total number of packets processed for this flow. |
| BYTES | Indicates the total number of bytes processed for this flow. |
| POLICY | Indicates the name of the subscriber QoS policy applicable for this subscriber. |

show subscribers access-flows full

Table 563: show subscribers access-flows full Command Output Descriptions

| Field | Description |
|--------------------------|--|
| Username | Specifies the name of the subscriber. |
| callid | Displays the subscriber's call identification number (callid). |
| msid | Displays the subscriber's mobile station identification (MSID). |
| flow ID | Indicates the unique identification number for the flow. |
| Access Tech | Indicates the session type for this subscriber. See |
| Status | Indicates the status of the session as Active or Dormant/Idle. |
| Policy Name | Indicates the name of the QoS/subscriber policy. |
| Direction | Indicates the flow direction as Forward/Uplink or Reverse/Downlink. |
| State | Indicates the status of the flow as Active or Inactive. |
| Mapping Status | Indicates the mapping status of the flow as one of the following: <ul style="list-style-type: none"> - Mapped - Unmapped - Not Applicable |
| Flow Type | Indicates the access flow type as one of the following: <ul style="list-style-type: none"> - Accounting - Static - Dynamic - Pre-provisioned |
| Hdr Comp | Indicates the status of header compression. |
| QoS Traffic Policing | Indicates the status of the QoS traffic policing as Enabled or Disabled. |
| Data Statistics | Displays the data statistics. |
| Packets | Displays the total number of packets. |
| Bytes | Displays the total number of bytes. |
| pkts dropped tp | Displays the number of packets dropped by the traffic policy. |
| pkts dropped access-ctrl | Displays the number of packets dropped by the access control. |

| Field | Description |
|--|---|
| Requested QoS | Displays the requested QoS. |
| Profile Ids | Displays the profile IDs for the requested QoS. |
| QOS Id | Displays the applicable QoS identifier. |
| Granted QoS | Displays the granted QoS. |
| Global-Service-Class-Name | Specifies the global service class name. |
| Service-Class-Name | Specifies the local service class name. |
| Schedule Type | Displays the schedule type configured for the requested QoS. This group contains relevant parameters like, minimum reserved traffic rate, maximum latency allowed, polling interval, traffic priority, sustained traffic rate, and maximum traffic burst. |
| Classifiers | Displays the service classifier parameters like type of traffic, priority, matching protocol, source-destination IP address and ports, DSCP marking etc. It also shows the configured permit criteria for flows. |
| Data Path(s) | Displays the available information of data path(s). |
| Peer Address | Indicates the IP address of the trusted peer ASN GWs for inter ASN GW handovers in this service. |
| BS ID | Indicates the Base station Id. |
| Tunnel Endpoint | Indicates the IP address of GRE tunnel endpoint. |
| Gre Key | Indicates the GRE key for this data tunnel. |
| Type | Type of GRE data tunnel. It may be R4 or R6. |
| State | Indicates the status of access flow. Possible states are: - I: Initializing - F: Flow Added - A: Active - P: Pending |
| RecdPkts | Indicates the total number of packets received. |
| SendPkts | Indicates the total number of packets sent. |
| Total access-flows matching specified criteria | Displays the total number of matching access-flows. |

show subscribers access-flows wf1

Table 564: show subscribers access-flows wf1 Command Output Descriptions

| Field | Description |
|--------------|---|
| Access Tech | Indicates the session type for this subscriber. See |
| Policy Name | Indicates the name of the QoS/subscriber policy. |
| Type | Indicates the access flow type as one of the following: <ul style="list-style-type: none"> - A: Accounting - S: Static - D: Dynamic - P: Pre-provisioned |
| Direction | Indicates the flow direction as Forward/Uplink or Reverse/Downlink. |
| Link Status | Indicates the status of the link as one of the following: <ul style="list-style-type: none"> - A: Online/Active - D: Dormant - . (period): Not Applicable |
| Flow Status | Indicates the status of the flow as Active or Inactive. |
| Flow Mapping | Indicates the mapping status of the flow as one of the following: <ul style="list-style-type: none"> - M: Mapped - U: Unmapped - . (period): Not Applicable |
| Network Type | Indicates the network type. See |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| ID | Indicates the unique identification number for the flow. |
| SRID | Indicates the service request identification number for the flow. |
| PROFID | Indicates the profile identification number used by the flow. |
| SO | Displays the service option for each flow. |
| PACKETS | Indicates the total number of packets. |
| BYTES | Indicates the total number of bytes. |

| Field | Description |
|----------|---|
| POLICY | Indicates the policy name used for the flow. |
| HDR-COMP | Indicates the ROHC header compression feedback channel identification number carried by the link. |

show subscribers all

Table 565: show subscribers all Command Output Descriptions

| Field | Description |
|--------|--|
| vvvvv | Displays service and session state information. This column provides a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. <ul style="list-style-type: none"> - A: Attached - C: Call (Unknown Type) - N: Not Attached - v: Voice Call - . (period): Not Applicable - V: Video Call |
| | The fifth character represents the Link Status of the session. The possible idle states are: <ul style="list-style-type: none"> - A: Online/Active - D: Dormant/Idle <p>Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.</p> |
| | The sixth character represents the session Network Type . See |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |

```
show subscribers apn <apn_name> rulename <rule_name>
```

| Field | Description |
|--------------|--|
| USERNAME | Displays the subscriber's username. |
| IP(*) | Displays the IP address assigned to the subscriber. (* indicates the multiple hosts supported behind a primary node with primary IP address. Note that this is applicable to ASN GW session only. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |
| (N) - NB-IoT | Display the NB-IoT RAT type |

show subscribers apn <apn_name> rulename <rule_name>

Table 566: show subscribers apn <apn_name> rulename <rule_name> Command Output Descriptions

| Field | Description |
|-------------------|--|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |
| Access CSCF State | The access state of the session. The possible states are: - A : Attached - N : Not Attached - . (period): Not Applicable |
| Link Status | Indicates the status of the flow. The possible states are: - A : Online/Active (airlink connected) - D : Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |

| Field | Description |
|-----------|---|
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. |
| | The second character represents the Access Technology . |
| | The third character represents the Call State . |
| | The fourth character represents the Access CSCF Status of the session. |
| | The fifth character represents the Link Status of the session. |
| | The sixth character represents the session Network Type . |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers apn <apn_name> without-dynamic-rule

Table 567: show subscribers apn <apn_name> without-dynamic-rule Command Output Descriptions

| Field | Description |
|-------------------|---|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |
| Access CSCF State | The access state of the session. The possible states are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |

| Field | Description |
|--------------|--|
| Link Status | Indicates the status of the flow. The possible states are: - A : Online/Active (airlink connected) - D : Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. From left-to-right, the first character represents the Access Type that the subscriber is using. The second character represents the Access Technology . The third character represents the Call State . The fourth character represents the Access CSCF Status of the session. The fifth character represents the Link Status of the session. The sixth character represents the session Network Type . |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers apn <apn_name> without-override-control

Table 568: show subscribers apn <apn_name> without-override-control Command Output Descriptions

| Field | Description |
|-------------|---|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |

| Field | Description |
|-------------------|--|
| Access CSCF State | The access state of the session. The possible states are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |
| Link Status | Indicates the status of the flow. The possible states are: <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. From left-to-right, the first character represents the Access Type that the subscriber is using. The second character represents the Access Technology . The third character represents the Call State . The fourth character represents the Access CSCF Status of the session. The fifth character represents the Link Status of the session. The sixth character represents the session Network Type . |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers asngw-only all

Table 569: show subscribers asngw-only all Command Output Descriptions

| Field | Description |
|---|--|
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. The possible states are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |
| | The fifth character represents the Link Status of the session. The possible states are: <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) <p>Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.</p> |
| | The sixth character represents the session Network Type . See |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |
| Total subscribers matching specified criteria | The total number of subscribers using firewall. |

show subscribers asngw-service

Table 570: show subscribers asngw-service Command Output Descriptions

| Field | Description |
|---|--|
| vvvvvv | <p>Displays service and session state information. This column displays a code consisting of six characters.</p> <p>From left-to-right, the first character represents the Access Type that the subscriber is using. See</p> <p>The second character represents the Access Technology. See</p> <p>The third character represents the Call State. See</p> <p>The fourth character represents the Access CSCF Status of the session. The possible states are:</p> <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable <p>The fifth character represents the Link Status of the session. The possible states are:</p> <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) <p>Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.</p> <p>The sixth character represents the session Network Type. See</p> |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |
| Total subscribers matching specified criteria | The total number of subscribers using firewall. |

show subscribers callid <callid> adc readdress statistics

Table 571: show subscribers callid <callid> adc readdress statistics Command Output Descriptions

| Field | Description |
|-----------------------------|--|
| Total Readdressed Flows | Total number of readdressed uplink and downlink flows. |
| Readdressed Upl Pkts | Total number of readdressed uplinked packets. |
| Readdressed Dnl Pkts | Total number of readdressed downlinked packets. |
| Total Readdressing Failures | Total number of packets with readdressing failures. |
| Non Syn Flow | Total number of readdressing packets with a non SYN flow failure. |
| Duplicate Key | Total number of readdressing packets with a duplicate key failure. |
| Dropped Pkts | Total number of packets discarded on readdressing failure. |

show subscribers counters username

Table 572: show subscriber counters username Command Output Descriptions

| Field | Description |
|--------------|---|
| Username | Specifies the name of the subscriber. |
| Status | Indicates the status of the subscriber's session. The status can be Online or Offline and Active or Dormant. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Access Type | Indicates the session type for this subscriber. See |
| Network Type | Indicates the network service used for the subscriber session. See |
| callid | Displays the subscriber's call identification number (callid). |
| msid | Displays the subscriber's mobile station identification (MSID). |
| input pkts | Indicates the number of packets received. |
| output pkts | Indicates the number of packets transmitted. |
| input bytes | Indicates the number of bytes received. |
| output bytes | Indicates the number of bytes transmitted. |

| Field | Description |
|-------------------------------------|--|
| input bytes dropped | Indicates the number of bytes that were dropped while receiving data for this subscriber session. |
| output bytes dropped | Indicates the number of bytes that were dropped while transmitting data for this subscriber session. |
| input pkts dropped | Indicates the number of packets that were dropped while receiving data for this subscriber session. |
| output pkts dropped | Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets. |
| input pkts dropped due to zero mbr | Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| output pkts dropped due to zero mbr | Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| pk rate from user(bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(bps) | The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(bps) | The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(bps) | The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |

| Field | Description |
|-------------------------------------|--|
| sust rate to user(bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| pk rate from user(pps) | The speed that packets are being received from the user in packets per second. The sampling period is 30 seconds. |
| pk rate to user(pps) | The speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds. |
| ave rate from user(pps) | The average speed that packets are being received from the user in packets per second. The sampling period is 30 seconds. |
| ave rate to user(pps) | The average speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds. |
| sust rate from user(pps) | The sustained speed that packets are being received from the user in packets per second. The sampling period is 30 seconds. |
| sust rate to user(pps) | The sustained speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds. |
| link online/active percent | The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds. |
| ipv4 bad hdr | Indicates the number of IPv4 packets received with bad headers. |
| ipv4 ttl exceeded | Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session. |
| ipv4 fragments sent | Indicates the number of IPv4 packet fragments that were transmitted. |
| ipv4 could not fragment | Indicates the number of IPv4 packets that could not be fragmented. |
| ipv4 input acl drop | Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. Note: This counter may increment even if no ACL is configured. |
| ipv4 output acl drop | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv4 source violations | Indicates the number of IPv4 source validation violations. |
| ipv4 source violation no accounting | The IPv4 source validation violations that were detected but not included in the statistics. |
| ipv6 egress filtered | Enable IPv6 egress address filtering feature. |

| Field | Description |
|---|--|
| dormancy total | Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| handoff total | The total number of subscriber sessions handed off. |
| ipv4 icmp packets dropped | When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped. |
| Total subscribers matching specified criteria | Displays the number of subscribers currently accessing the system that matched the criteria that was specified during the execution of this command. |

show subscribers cscf-only full

Displays per-subscriber information for active sessions.

Table 573: show subscribers cscf-only full Command Output Descriptions

| Field | Description |
|--------------------------------|--|
| AoR | The address of record of the CSCF subscriber. |
| callid | The call ID of the active subscriber session. |
| Contact | The subscriber's contact information provided during registration. |
| Custom Features | If applicable, the custom feature tag set for the CSCF subscriber. |
| Card/CPU | The slot and CPU number of the Processing Card through which the session is being processed. |
| Sessmgr Instance | The session manager instance the active subscriber session is using. |
| Active TCP Connections | (P-CSCF only) The total number of open TCP connections with subscribers. |
| Transport of Last Received Msg | The transport method used for the last received message. Possible transport methods used are TCP or UDP. |
| Last Registration Timestamp | Last registration received for the subscriber, displayed in Universal Time Coordinated (UTC). |
| Registration expires after | The remaining duration of the subscriber registration. |

| Field | Description |
|-------------------------------|--|
| State | The current state of the session. |
| Subscriber type | The subscriber type (home or visitor). |
| CSCF Service | The CSCF service the session is using. |
| CSCF Role | The role of the CSCF service. |
| Collapsed with access service | The access service with which the CSCF service is collapsed. |
| Access service callid | The call ID number of the access gateway integrated with the SCM. |
| AAA context | The AAA service to which the subscriber belongs. |
| AAA domain | The AAA domain to which the subscriber belongs. |
| AAA RADIUS group | The AAA RADIUS group to which the subscriber belongs. |
| RADIUS Auth Server IP | The RADIUS authentication server's IP address. |
| RADIUS Acct Server IP | The RADIUS accounting server's IP address. Note: When the RADIUS Accounting Mediation Device is configured, this field will NOT display the RADIUS accounting mediation server's IP address. |
| DIAMETER Policy Server | The IP address of the Diameter policy server. |
| DIAMETER Policy Session-Id | The ID of Diameter Policy External Control Application (DPECA) session created by P-CSCF for every subscriber to subscribe to registration path signaling with PCRF. If the diameter subscription fails at PCRF, diameter Policy session ID will be displayed as N/A. Note: This field is applicable only for P-CSCF. |
| DIAMETER Policy Subscription | The status of DPECA subscription. Note: This field is applicable only for P-CSCF. |
| DIAMETER Acct Server | The IP address of the Diameter accounting server. |
| Charging Function Address | The IP address of the charging function server. |
| PCSCF Path | The node path to the registrar. A "Path" field is only used for REGISTER messages and 200OK responses to REGISTER messages. This field contains either IP-address:port or fully-qualified-domain-name:port. |
| SCSCF Service Route | The path to the service proxy as returned by the registrar upon successful registration. This field contains either IP-address:port or fully-qualified-domain-name:port. |

| Field | Description |
|---|--|
| Current CSCF sessions | The number of CSCF sessions the subscriber currently has running. |
| Registration Set | |
| All public URIs registered by the subscriber. It includes a public URI that the user explicitly registers as well as associated URIs that get implicitly registered for the user by the S-CSCF node. In addition, call features that a public URI is subscribed to are also shown below each URI. | |
| AoR | The address of record of the CSCF subscriber. |
| Display Name | The display name for the CSCF subscriber. |
| Unsupported VoLTE | Displays TRUE or FALSE, as per information obtained through Unsupported-VoLTE AVP in SAA from HSS. |
| Loose Route | The loose route information for the CSCF subscriber. |
| Alias GroupId | Populated if alias indication feature is enabled on S-CSCF. HSS reports alias group ID. |
| Total PubUids | The total number of implicit registered users for the CSCF subscriber. |
| Shared IFC | Populated if Shared Initial Filter Criteria (SiFC) functionality is enabled on the CSCF. |
| Call Features Subscriber profile shows whether a subscriber has enabled local call features. Possible values are: <ul style="list-style-type: none"> • Disabled - Subscriber has disabled local call features; no associated local call features are displayed. • Enabled - Subscriber has enabled local call features; associated local call features are displayed. | |
| CID VSC OverRide | Indicates whether Caller ID Display Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CID | Indicates whether Caller ID Display has been enabled (1) or disabled (0) by this subscriber. |
| CIDB VSC OverRide | Indicates whether Caller ID Display Blocked Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CIDB | Indicates whether Caller ID Display Blocked has been enabled (1) or disabled (0) by this subscriber. |
| CW VSC OverRide | Indicates whether Call Waiting Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CW | Indicates whether Call Waiting has been enabled (1) or disabled (0) by this subscriber. |

| Field | Description |
|-----------------------------------|--|
| CT VSC OverRide | Indicates whether Call Transfer Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CT | Indicates whether Call Transfer has been enabled (1) or disabled (0) by this subscriber. |
| CFU VSC OverRide | Indicates whether Call Forward Unconditional Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CFU | Indicates whether or not Call Forward Unconditional is enabled for the subscriber's session. If not, None will be displayed. |
| CFNA VSC OverRide | Indicates whether Call Forward No Answer Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CFNA | Indicates whether or not Call Forward No Answer is enabled for the subscriber's session. If not, None will be displayed. |
| CFBL VSC OverRide | Indicates whether Call Forward Busy Line Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CFBL | Indicates whether or not Call Forward Busy Line is enabled for the subscriber's session. If not, None will be displayed. |
| CFNR VSC OverRide | Indicates whether Call Forward Not Registered Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| CFNR | Indicates whether or not Call Forward Not Registered is enabled for the subscriber's session. If not, None will be displayed. |
| FollowMe VSC OverRide | Indicates whether Follow Me/Find Me Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber. |
| FollowMe | Indicates whether or not Follow Me/Find Me is enabled for the subscriber's session. If not, None will be displayed. |
| Current CSCF Subscriptions | |
| Subscription id | The subscription ID. |
| Call-ID | The call identification number that uniquely identifies the subscriber. |
| Subscription Type | The subscription type. |
| Resource | The resource information. |
| Event Package | The associated event package. Possible event package types are: message-summary, presence, reg, and winfo. |
| Subscriber counters | |

| Field | Description |
|---------------------------|---|
| Call Attempts Tx | The total number of call attempts made by the subscriber for this session. |
| Call Attempts Rx | The total number of call attempts received by the subscriber for this session. |
| Call Successes Tx | The total number of calls successfully made by the subscriber for this session. |
| Call Successes Rx | The total number of successful calls received by the subscriber for this session. |
| Call Failures Tx | The total number of failed calls made by the subscriber for this session. |
| Call Failures Rx | The total number of call failures received by the subscriber for this session. |
| Call Release Attempts Tx | The total number of call release attempts made by the subscriber for this session. |
| Call Release Attempts Rx | The total number of call release attempts received by the subscriber for this session. |
| Call Release Successes Tx | The total number of call releases successfully made by the subscriber for this session. |
| Call Release Successes Rx | The total number of successful call releases received by the subscriber for this session. |
| Call Release Failures Tx | The total number of failed call releases made by the subscriber for this session. |
| Call Release Failures Rx | The total number of call release failures received by the subscriber for this session. |
| Subscription Attempts Tx | The total number of subscription attempts made by the subscriber for this session. |
| Subscription Attempts Rx | The total number of subscription attempts received by the subscriber for this session. |
| Subscription Successes Tx | The total number of subscriptions successfully made by the subscriber for this session. |
| Subscription Successes Rx | The total number of successful subscriptions received by the subscriber for this session. |
| Subscription Failures Tx | The total number of failed subscriptions made by the subscriber for this session. |
| Subscription Failures Rx | The total number of subscription failures received by the subscriber for this session. |

| Field | Description |
|---------------------------|---|
| Publish Attempts Tx | The total number of publish attempts made by the subscriber for this session. |
| Publish Attempts Rx | The total number of publish attempts received by the subscriber for this session. |
| Publish Successes Tx | The total number of publishes successfully made by the subscriber for this session. |
| Publish Successes Rx | The total number of successful publishes received by the subscriber for this session. |
| Publish Failures Tx | The total number of failed publishes made by the subscriber for this session. |
| Publish Failures Rx | The total number of publish failures received by the subscriber for this session. |
| Notification Attempts Tx | The total number of notification attempts made by the subscriber for this session. |
| Notification Attempts Rx | The total number of notification attempts received by the subscriber for this session. |
| Notification Successes Tx | The total number of notifications successfully made by the subscriber for this session. |
| Notification Successes Rx | The total number of successful notifications received by the subscriber for this session. |
| Notification Failures Tx | The total number of failed notifications made by the subscriber for this session. |
| Notification Failures Rx | The total number of notification failures received by the subscriber for this session. |
| Message Attempts Tx | The total number of message attempts made by the subscriber for this session. |
| Message Attempts Rx | The total number of message attempts received by the subscriber for this session. |
| Message Successes Tx | The total number of messages successfully made by the subscriber for this session. |
| Message Successes Rx | The total number of successful messages received by the subscriber for this session. |
| Message Failures Tx | The total number of failed messages made by the subscriber for this session. |
| Message Failures Rx | The total number of message failures received by the subscriber for this session. |

| Field | Description |
|----------------------------|--|
| Response 403 Tx | The total number of Response 403 transmitted. |
| Response 403 Rx | The total number of Response 403 received. |
| Response 408 Tx | The total number of Response 408 transmitted. |
| Response 408 Rx | The total number of Response 408 received. |
| Response 480 Tx | The total number of Response 480 transmitted. |
| Response 480 Rx | The total number of Response 480 received. |
| Response 481 Tx | The total number of Response 481 transmitted. |
| Response 481 Rx | The total number of Response 481 received. |
| Response 487 Tx | The total number of Response 487 transmitted. |
| Response 487 Rx | The total number of Response 487 received. |
| Response 488 Tx | The total number of Response 488 transmitted. |
| Response 488 Rx | The total number of Response 488 received. |
| Response 500 Tx | The total number of Response 500 transmitted. |
| Response 500 Rx | The total number of Response 500 received. |
| PDF Call Rejects | The total number of times the subscriber initiated a call through the P-CSCF but the policy decision function (PDF) rejected it. |
| Local Call Rejects | The total number of local call rejects (by the P-CSCF) for this subscriber. |
| Emergency Calls | The total number of emergency calls made by this subscriber during this session. |
| Operator-assistance Calls | The total number of operator-assisted calls made by this subscriber during this session. |
| Tollfree Calls | The total number of toll-free calls made by this subscriber during this session. |
| Directory-assistance Calls | The total number of directory assisted calls made by this subscriber during this session. |
| Premium Calls | The total number of premium service calls made by this subscriber during this session. |
| International Calls | The total number of international calls made by this subscriber during this session. |
| LongDistance Calls | The total number of long distance calls made by this subscriber during this session. |

| Field | Description |
|-----------------------|--|
| Session Timer Expires | The total number of session timer expirations occurring during this session. |

show subscribers enodeb-address

Table 574: show subscribers enodeb-address Command Output Descriptions

| Field | Description |
|-----------|---|
| vvvvv | Displays service and session state information. This column provides a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. The possible network types are: A - Attached N - Not Attached . (period) - Not Applicable |
| | The fifth character represents the Link Status of the session. The possible idle states are: A - Online/Active D - Dormant/Idle |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| USERNAME | Displays the subscriber's username. |
| IP | Displays the IP address assigned to the subscriber. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers firewall required

Table 575: show subscribers firewall required Command Output Descriptions

| Field | Description |
|---|---|
| vvvvvv | Displays service and session state information. This column provides a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. The possible network types are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |
| | The fifth character represents the Link Status of the session. The possible idle states are: <ul style="list-style-type: none"> - A: Online/Active - D: Dormant/Idle <p>Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.</p> |
| | The sixth character represents the session Network Type . See |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| USERNAME | Displays the subscriber's username. |
| IP | Displays the IP address assigned to the subscriber. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |
| Total subscribers matching specified criteria | Total number of subscribers with firewall enabled. |

show subscribers full all

Table 576: show subscribers full all Command Output Descriptions

| Field | Description |
|--------------------|---|
| Username | The subscriber name. |
| Status | Indicates the session status. |
| Access Type | Indicates the session type for this subscriber. See Common Attributes in this chapter. |
| Network Type | Indicates the network service used for the subscriber session. See Common Attributes in this chapter. |
| Access Tech | Indicates the accessing technology. See Common Attributes in this chapter. |
| callid | The subscriber's call identification number (callid). |
| msid | The subscriber's mobile station identification (MSID). |
| WLAN UE Identifier | The UE identifier — MAC address in ASCII format (upper case only), with octet values separated by hyphens. |
| WLAN AP Identifier | The UE's access point identifier — Location Area Code Cell Identity (LAC_CI) that is, Location Area Code (LAC) and Cell Id (CI) separated by an underscore. |
| EAP-TYPE | The Extensible Authentication Protocol type. |
| Card/Cpu | The card and CPU ID. |
| Sessmgr Instance | The session manager instances. |
| state | The session state. The possible values are: <ul style="list-style-type: none"> - Connected - Connecting - Disconnecting - Unknown |
| PCF address | IP address of the PCF. |
| Peer address | IP address of peer system in network. |
| BS/PA address | Indicates the IP address of base station or paging agent. |
| idle time | The time period that the subscriber session has been idle, either in an active or dormant state. |

| Field | Description |
|---------------------------------|---|
| idle time left | The idle time period left before timeout. |
| session time left | The session time left for the subscriber. |
| long duration time left | Indicates how much time is left for the maximum duration of a specified subscriber session. |
| long duration action | The setting for the action to take when the long duration timer expires. The possible values are: <ul style="list-style-type: none"> • Detection - Detect and send SNMP trap and CORBA notification only. • Disconnection - Disconnect the session and send SNMP trap and CORBA notification. |
| context-retention timer running | Indicates whether context-retention timer is running. |
| context-retention time left | Indicates time remaining. |
| always on | Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature enabled. |
| ip address | Indicates the primary IP address of the subscriber interface in the session. In WiMAX session this is the primary IP address of WiMAX CPE, if multiple host support enabled. |
| ue mac | The UE's MAC. |
| Default Gateway | The default gateway IP address. |
| Multiple Hosts | Specifies the multiple IP host support enabled or disabled for a WiMAX session. It also indicates the connected hosts behind a WiMAX CPE and their allocated IP address with secondary IP pool name. |
| home-agent | The name of the HA for this subscriber. |
| fa-service-name | The name of the FA service for this subscriber. |
| ip pool name | The IP address pool or group to use for subscriber IP address allocation. |
| local ip addr | The local IP address of the interface in the session. |
| source context | The name of a configured source context from which the subscriber initiates a session. |
| destination context | The name of a configured destination context through which the subscriber is provided access to the packet data network. |
| ip header compression | The header compression method being used. |

| Field | Description |
|------------------------------|--|
| ROHC cid-mode (local/remote) | Robust Header Compression mode for the bidirectional channel: [small large na]. |
| ROHC max-cid (local/remote) | For Robust Header Compression, indicates the maximum value of a context identifier. |
| ROHC mrru (local/remote) | For Robust Header Compression, indicates the maximum reconstructed reception unit. |
| ROHC max-hdr (local/remote) | For Robust Header Compression, the largest header size in octets that may be compressed. |
| ROHC profile | Robust Header Compression profile ID as per RFC3095 for the bidirectional channel. |
| AAA context | The context in which the AAA service is configured. |
| AAA domain | The domain in which the AAA service is configured. |
| AAA start count | The number of accounting start messages sent to the accounting server for the subscriber session. |
| AAA stop count | The number of accounting stop messages sent to the accounting server for the subscriber session. |
| AAA interim count | The number of accounting interim messages sent to the accounting server for the subscriber session. |
| Acct-session-id | Identifies a subscriber session or PDP context and sends the information to RADIUS server. In Release 14.0 and later, this field will be displayed in both 3GPP and CDMA formats. |
| Mediation-acct-session-id | Identifies a subscriber session or PDP context and sends the information to mediation server. This field will be displayed in both 3GPP and CDMA formats. |
| AAA RADIUS group | The AAA RADIUS server group assigned to specific subscriber for AAA functionality. |
| AAA RADIUS Secondary group | If the secondary Accounting group is configured in the Subscriber configuration, this field displays the corresponding group name. Otherwise, it displays <i>n/a</i> . |
| RADIUS Auth Server IP | The RADIUS authentication server's IP address. |
| RADIUS Acct Server IP | The RADIUS accounting server's IP address. When the RADIUS Accounting Mediation Device is configured, this field will <u>not</u> display the RADIUS accounting mediation server's IP address. |

| Field | Description |
|------------------------|---|
| NAS IP Address | The Network Access Server's (NAS) IP address. |
| Nexthop IP Address | The IP address of configured next-hop-forwarding-address in RADIUS attribute, subscriber configuration, or IP pool configuration. |
| GTPP Group | Displays all the configured GTPP server groups associated with this APN. Note: This field only appears if the Accounting Mode is GTPP. |
| Acct Context | Specifies the name of all configured GTPP accounting contexts associated with this APN. Note: This field only appears if the Accounting Mode is GTPP. |
| Authentication Mode | The authentication mode. Possible modes are: - None - User (Single EAP) - Device (Single EAP) - Device-User (Double EAP) - Device-User (Single EAP) |
| Authentication Type | The authentication type. |
| EAP-Type | The type of EAP authentication. Possible types are: - EAP-Pre-shared Key (EAP-PSK) - EAP-Transport Layer Security (EAP-TLS) - EAP-Tunneled Transport Layer Security (EAP-TTLS) - EAP-Authentication and Key Agreement (EAP-AKA) |
| Client Type | The type of client, which can be Regular or Data. Identifies whether the client is a regular client, which includes voice, or a data client, which is data only. |
| active input acl | The active Access Control List (ACL) for input. |
| active output acl | The active Access Control List (ACL) for output. |
| active input ipv6 acl | The active IPv6 Access Control List (ACL) for input. |
| active output ipv6 acl | The active IPv6 Access Control List (ACL) for output. |
| ECS Rulebase | The rulebase applicable for this subscriber when Enhanced Charging Service/Active Charging Service is enabled. |
| CBB-Policy | The CBB policy associated with the subscriber. |

| Field | Description |
|--|--|
| Bandwidth-Policy | The bandwidth policy associated with the subscriber. |
| Firewall-and-NAT Policy | Displays the Firewall-and-NAT policy name. |
| Firewall Policy IPv4 | Indicates whether IPv4 firewall is enabled for the subscriber. |
| Firewall Policy IPv6 | Indicates whether IPv6 firewall is enabled for the subscriber. |
| NAT Policy NAT44 | Indicates whether NAT44 is enabled or disabled for the subscriber. |
| NAT Policy NAT64 | Indicates whether NAT64 is enabled or disabled for the subscriber. |
| NAT Policy | Indicates whether NAT is enabled for the subscriber. |
| NAT Realm | The NAT realms associated with the subscriber. Note: In 15.0 and later releases, the NAT Realm field will be displayed only when IP is assigned, and removed again when IP is released. |
| NAT IP address | The NAT IP address allocated from the NAT realm. |
| (on-demand/not-on-demand) | If the NAT realm type is "on-demand" (where NAT IP allocation happens when the very first packet is received from the subscriber for that realm) it is indicated. |
| (<pool_name>) | If a NAT IP pool group is used, it indicates the NAT pool from which the IP is allocated. |
| Nat port chunks allocated[start - end] | The NAT port range allocated to the subscriber. |
| CF Policy ID | The Category-based Content Filtering Policy ID associated with the subscriber. |
| TPO Policy | Note: The Traffic Performance Optimization (TPO) in-line service is not supported in this release. |
| active input pley grp | The active input policy group for traffic flow. |
| active output pley grp | The active output policy group for traffic flow. |
| MIPFA Sessions | The status of Mobile IP FA sessions. |
| Layer 3 tunneling | Indicates if Layer 3 tunneling is enabled. |
| dhcp-service name | The DHCP service name. |
| dhcp-server address | The DHCP server address. |
| prepaid status | Indicates if prepaid status is on or off. |
| external inline srvr processing | Indicates if external inline server processing is on or off. |
| Proxy DNS Intercept List | The proxy DNS intercept list used for the subscriber. |

| Field | Description |
|---------------------------|--|
| access-link ip-frag | Configures IP fragmentation processing over the Access-link. |
| ignore DF-bit data-tunnel | Indicates if whether during Mobile IP tunneling, the DF bit is not ignored and packets are not fragmented. |
| MIP grat-ARP mode | Indicates if gratuitous ARPs are sent out for an HA session upon handoff and renewal requests. |
| Downlink traffic-policing | Indicates if traffic policing is enabled for the downlink direction. |
| Uplink traffic-policing | Indicates if traffic policing is enabled for the uplink direction. |
| Downlink traffic-shaping | Indicates if traffic shaping is enabled for downlink direction. |
| Uplink traffic-shaping | Indicates if traffic shaping is enabled for uplink direction. |
| Radius Accounting Mode | Indicates if the RADIUS accounting mode is either session-based or access-flow-based. |
| cscf-service name | The CSCF service name. |
| cscf registration AoR | The CSCF registered AoR. |
| apn | The Access Point Name associated with the subscriber. |
| nsapi | The subscriber's Network Service Access Point Identifier (NSAPI). |
| imsi | The subscriber's International mobile Subscriber Identity. |
| MSISDN | The Mobile Station International ISDN Number (MSISDN) of the subscriber node. |
| remote-ip-addr | The assigned remote IP address. |
| imei(sv) | The UE's MAC address with FFFE appended at the end. |
| uli | Displays the access point's identity. |
| mcc | The Mobile Country Code. |
| mnc | The Mobile Network Code. |
| lac | The Location Area Code, which identifies a location area. |
| ci | The Cell ID, which identifies a cell within a location area. |
| input pkts | Indicates the number of packets received. |
| output pkts | Indicates the number of packets transmitted. |
| input bytes | Indicates the number of bytes received. |
| output bytes | Indicates the number of bytes transmitted. |

| Field | Description |
|-------------------------------------|--|
| input bytes dropped | Indicates the number of bytes that were dropped while receiving data for this subscriber session. |
| output bytes dropped | Indicates the number of bytes that were dropped while transmitting data for this subscriber session. |
| input pkts dropped | Indicates the number of packets that were dropped while receiving data for this subscriber session. |
| output pkts dropped | Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets. |
| input pkts dropped due to zero mbr | Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| output pkts dropped due to zero mbr | Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| pk rate from user(bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(bps) | The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(bps) | The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(bps) | The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |

| Field | Description |
|----------------------------|---|
| sust rate to user(bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| pk rate from user(pps) | The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(pps) | The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(pps) | The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(pps) | The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(pps) | The mean data rate, in packets per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(pps) | The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| link online/active percent | The percentage of time that the data link was online and active during the last sampling period. |
| ipv4 bad hdr | Indicates the number of IPv4 packets received with bad headers. |
| ipv4 ttl exceeded | Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session. |
| ipv4 fragments sent | Indicates the number of IPv4 packet fragments that were transmitted. |
| ipv4 could not fragment | Indicates the number of IPv4 packets that could not be fragmented. |
| ipv4 input acl drop | Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured. |
| ipv4 output acl drop | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv4 input css down drop | Indicates the number of input packets dropped because the CSS service is yet not up or the service went down. |

| Field | Description |
|------------------------------|---|
| ipv4 output css down drop | Indicates the number of output packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 output xoff pkts drop | Indicates the number of packets dropped because of flow control. |
| ipv4 output xoff bytes drop | Indicates the number of bytes dropped because of flow control. |
| input pkts dropped (0 mbr) | The total number of input packets dropped when a 0 MBR is received in a UPC (Update PDP Context Request) indicating that the UE is out of radio coverage. |
| output pkts dropped (0 mbr) | The total number of output packets dropped when a 0 MBR is received in a UPC (Update PDP Context Request) indicating that the UE is out of radio coverage. |
| output pkts dropped lorc | The total number of packets dropped due to a UE loss of radio coverage condition. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC. |
| ipv4 source violations | Indicates the number of IPv4 source validation violations. |
| ipv4 proxy-dns redirect | The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber. |
| ipv4 proxy-dns pass-thru | The number of foreign DNS request packets allowed through the intercept filter for the subscriber. |
| ipv4 proxy-dns drop | The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber. |
| ip source violations no acct | The IP source validation violations that were detected but not included in the statistics. |
| ip source violations ignored | The IP source validation violations that were detected but then ignored. |
| ipv4 output no-flow drop | The number of IP packets not matching traffic classifier and dropped for the subscriber. |
| dormancy total | Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. |
| handoff total | The total number of subscriber sessions handed off. |
| ipv4 icmp packets dropped | When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped. |

| Field | Description |
|---|---|
| Access-flows | The total number of matching access-flows. For flow-based service subscribers it provides information on access flow id, packet data flow id, service data flow id, type of access flow, QoS policy name, and direction of flow. |
| CAE Server Address | The IPv4 address of the CAE serving the subscriber. |
| Total subscribers matching specified criteria | The total number of subscribers matching the specified criteria. |

show subscribers full username

Table 577: show subscribers full username Command Output Descriptions

| Field | Description |
|-------------------|---|
| Username | Specifies the name of the subscriber. |
| Status | Indicates the status of the subscriber's session. The status can be Online/Active or Offline/Dormant/Idle. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| Access Type | Indicates the session type for this subscriber. See |
| Network Type | Indicates the network service used for the subscriber session. See |
| Access Tech | Indicates Accessing Technology. See |
| BSID | Displays the ASN base station identifier (MAC address). |
| callid | Displays the subscriber's call identification number (callid). |
| msid | Displays the subscriber's mobile station identification (MSID). |
| 3GPP2 Carrier ID | Unique identifier for the carrier. |
| 3GPP2 ESN | Electronic Serial Number of the mobile handset. |
| Card/Cpu | Indicates the ID of Card and CPU. |
| Sessmgr Instances | Displays the session manager instances. |

| Field | Description |
|-------------------------|---|
| state | Indicates the status of session. The possible status are: <ul style="list-style-type: none"> - Connected - Connecting - Disconnecting - Unknown |
| PCF address | Specifies the IP address of PCF in decimal notation. |
| connect time | Displays the time of connection starts. |
| call duration | Specifies total duration of call session in hh:mm:ss format |
| idle time | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |
| idle time left | Shows the amount of idle time left before timeout. |
| session time left | How much session time is left for the specified subscriber. |
| long duration time left | Shows how much time is left for the maximum duration of a specified subscriber session. |
| long duration action | Shows the setting for the action to take when the long duration timer expires. The possible values for this are: <ul style="list-style-type: none"> • Detection - Detect and send SNMP trap and CORBA notification only. • Disconnection - Disconnect the session and send SNMP trap and CORBA notification. |
| always on | Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature enabled. |
| ip address | The IP address of the interface in the session. |
| Primary DNS Address | The primary DNS address of the interface in the session. |
| Secondary DNS Address | The secondary DNS address of the interface in the session. |
| home-agent | The IP address of the mobile IP user's home agent. |
| pdsn-service name | The PDSN service that is running this session and the context name of the PDSN-service with the service-name. |
| fa-service name context | The FA service that is running this session and the context name of the FA-service with the service-name for a MIP call. |
| ggsn-service name | The GGSN service that is running this session and the context name of the GGSN-service with the service-name. |

| Field | Description |
|---|---|
| source context | Specifies the name of a configured source context from which the subscriber initiates a session. |
| destination context | Specifies the name of a configured destination context through which the subscriber is provided access to the packet data network. |
| ip header compression: (loc to rem) vj, (rem to loc) vj | This specifies what header compression method is being used. |
| ROHC max-cid (local/remote) | For Robust Header Compression, indicates the maximum value of a context identifier. |
| ROHC mrru (local/remote) | For Robust Header Compression, indicates the maximum reconstructed reception unit. |
| ROHC max-hdr (local/remote) | For Robust Header Compression, the largest header size in octets that may be compressed. |
| AAA context | The context in which the AAA service is configured. |
| AAA domain | The domain in which the AAA service is configured. |
| AAA start count | The number of accounting start messages sent to the accounting server for the subscriber session. |
| AAA stop count | The number of accounting stop messages sent to the accounting server for the subscriber session. |
| AAA interim count | The number of accounting interim messages sent to the accounting server for the subscriber session. |
| Acct-session-id | Identifies a subscriber session or PDP context. |
| AAA RADIUS group | Indicates the group of AAA RADIUS server assigned to specific subscriber for AAA functionality. |
| RADIUS Auth Server IP | The RADIUS authentication server's IP address. |
| RADIUS Acct Server IP | The RADIUS accounting server's IP address. When the RADIUS Accounting Mediation Device is configured, this field will NOT display the RADIUS accounting mediation server's IP address. |
| NAS IP Address | IP address of Network Access Server (NAS). |
| Nexthop IP Address | IP address of configured next-hop-forwarding-address in RADIUS attribute, subscriber configuration, or IP pool configuration. |

| Field | Description |
|------------------------|--|
| Authentication Mode | The authentication mode. Possible modes are: <ul style="list-style-type: none"> - None - User (Single EAP) - Device (Single EAP) - Device-User (Double EAP) - Device-User (Single EAP) |
| Authentication Type | The authentication type. |
| EAP-Type | The type of EAP authentication. Possible types are: <ul style="list-style-type: none"> - EAP-Pre-shared Key (EAP-PSK) EAP-Transport Layer Security (EAP-TLS) EAP-Tunneled Transport Layer Security (EAP-TTLS) EAP-Authentication and Key Agreement (EAP-AKA) |
| Client Type | The type of client, which can be Regular or Data. Identifies whether the client is a regular client, which includes voice, or a data client, which is data only. |
| active input acl | Specifies active Access Control List (ACL) for input. |
| active output acl | Specifies active Access Control List (ACL) for output. |
| ECS Rulebase | Specifies applicable Rulebase for this subscriber when ECS is enabled. |
| active input pley grp | Specifies active input policy group for traffic flow. |
| active output pley grp | Specifies active output policy group for traffic flow. |
| MIPHA Session | |
| Care-of-Address | The IP address of the device terminating the tunnel to the mobile node. The address may belong to either a Foreign Agent that is facilitating the subscriber's Mobile IP session or another device that the mobile node is associated (co-located) with. |
| Home-Address | The IP address assigned to the subscriber's mobile node for the duration of the session. |
| HA-Address | The IP address of the Home Agent that is facilitating the subscriber's Mobile IP session. |
| Lifetime | The accepted lifetime interval for this session. |
| Remaining Life | The amount of time that remains after which the session expires and is torn down. |

| Field | Description |
|-----------------------------|---|
| Reverse Tunneling On | Displays whether or not reverse tunneling is enabled for the subscriber's session. |
| Encapsulation Type | The encapsulation method used for the subscriber's session. |
| GRE Key | The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type. |
| IPSec Required | Indicates whether or not IPSec is required for the subscriber Mobile IP session. |
| IPSec Ctrl Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the control tunnel has been established. |
| IPSec Data Tunnel Estab. | If IPSec is required for the session, this field indicates whether or not the data tunnel has been established. |
| Revocation Negotiated | Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Possible values are: No or yes. |
| Revocation I bit Negotiated | Indicates whether or not the Revocation I bit was negotiated. Possible values are: No or Yes. |
| Collocated COA | Indicates whether or not the subscribers that registered a MIP collocated COA directly with the HA. Options are No or Yes. |
| NAT Detected | Indicates whether or not network address translation (NAT) is detected. Options are No or Yes. |
| MN-HA-Key-Present | The security parameter index (SPI) key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of mobile node (MN) - home agent (HA) key. Options are True or False. |
| MN-HA-SPI | Mobile node (MN) - home agent (HA) security parameter index (SPI). |
| FA-HA-Key-Present | The SPI key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are True or False. |
| FA-HA-SPI | FA - HA security parameter index (SPI). |
| MN-FA-Key-Present | The SPI key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the MN - FA key. Options are True or False. |

| Field | Description |
|---------------------------------|---|
| MN-FA-SPI | MN - FA security parameter index (SPI). |
| Layer 3 tunneling | Indicates if Layer 3 tunneling is enabled. |
| prepaid status | Indicates if prepaid status is on or off. |
| external inline srvr processing | Indicates if external inline server processing is on or off. |
| IPv6 Egress address filtering | Enable IPv6 egress address filtering feature. |
| IPv6 DNS Proxy | Enables/Disables the domain name server proxy for the current session. |
| Proxy DNS Intercept List | Identifies the proxy DNS intercept list used for the subscriber. |
| access-link ip-frag | Configures IP fragmentation processing over the Access-link. |
| ignore DF-bit data tunnel | Use this command to configure a user so that during Mobile IP tunneling the DF bit is not ignored and packets are not fragmented. |
| MIP grat-ARP mode | Indicates if gratuitous ARPs are sent out for an HA session upon handoff and renewal requests. |
| Downlink traffic-policing | Shows if traffic policing is enabled for the downlink direction. |
| Uplink traffic-policing | Shows if traffic policing is enabled for the uplink direction. |
| input pkts | Indicates the number of packets received. |
| output pkts | Indicates the number of packets transmitted. |
| input bytes | Indicates the number of bytes received. |
| output bytes | Indicates the number of bytes transmitted. |
| input bytes dropped | Indicates the number of bytes that were dropped while receiving data for this subscriber session. |
| output bytes dropped | Indicates the number of bytes that were dropped while transmitting data for this subscriber session. |
| input pkts dropped | Indicates the number of packets that were dropped while receiving data for this subscriber session. |
| output pkts dropped | Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets. |

| Field | Description |
|-------------------------------------|---|
| input pkts dropped due to zero mbr | <p>Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber.</p> <p>This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.</p> |
| output pkts dropped due to zero mbr | <p>Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber.</p> <p>This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.</p> |
| pk rate from user(bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(bps) | The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(bps) | The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(bps) | The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| pk rate from user(pps) | The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(pps) | The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(pps) | The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |

| Field | Description |
|-----------------------------|---|
| ave rate to user(pps) | The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(pps) | The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| link online/active percent | The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds. |
| ipv4 bad hdr | Indicates the number of IPv4 packets received with bad headers. |
| ipv4 ttl exceeded | Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session. |
| ipv4 fragments sent | Indicates the number of IPv4 packet fragments that were transmitted. |
| ipv4 could not fragment | Indicates the number of IPv4 packets that could not be fragmented. |
| ipv4 input acl drop | Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. Note: This counter may increment even if no ACL is configured. |
| ipv4 output acl drop | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv4 input css down drop | Indicates the number of input packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 output css down drop | Indicates the number of output packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 output xoff pkts drop | Indicates the number of packets dropped because of flow control. |
| ipv4 output xoff bytes drop | Indicates the number of bytes dropped because of flow control. |
| ip source violations | Indicates the number of IPv4 source validation violations. |
| ipv6 egress filtered | Enable IPv6 egress address filtering feature. |
| ipv4 proxy-dns redirect | The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber. |
| ipv4 proxy-dns pass-thru | The number of foreign DNS request packets allowed through the intercept filter for the subscriber. |
| ipv4 proxy-dns drop | The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber. |

| Field | Description |
|------------------------------------|--|
| ip source violations no accounting | The IP source validation violations that were detected but not included in the statistics. |
| ip source violations ignored | The IP source validation violations that were detected but then ignored. |
| dormancy total | Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF. |
| handoff total | The total number of subscriber sessions handed off. |
| ipv4 icmp packets dropped | When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped. |
| Access-flows | The total number of matching access-flows. |

show subscribers ggsn-only

Table 578: show subscribers ggsn-only Command Output Descriptions

| Field | Description |
|------------------------|--|
| Total Subscribers | Total number of subscribers registered on system for GGSN service session. |
| TotalPDP contexts | Total number of PDP contexts registered on the system for GGSN service session. |
| Total MBMS-UE contexts | Total number of MBMS-UE contexts registered on the system for GGSN service session. |
| pdp-type-ipv4 | Total number of PDP contexts of IPv4 type registered on the system for GGSN service session. |
| pdp-type-ppp | Total number of PDP contexts of PPP type registered on the system for GGSN service session. |
| pdp-type-ipv6 | Total number of PDP contexts of IPv6 type registered on the system for GGSN service session. |
| mbms-ue-type-ipv4 | Total number of MBMS-UE contexts of IPv4 type registered on the system for GGSN service session. |

| Field | Description |
|-----------------------------------|--|
| ip-type-static | Total number of MS, having static IP allocation, registered with GGSN service session on this system. |
| ip-type-local-pool | Total number of MS, having IP allocation from local IP pool, are registered with GGSN service session on this system. |
| ip-type-aaa-ip | Total number of MS, having IP allocation from AAA server, are registered with GGSN service session on this system. |
| ip-type-dhcp-proxy | Total number of MS, having IP allocation through DHCP-proxy, are registered with GGSN service session on this system. |
| ip-type-dhcp-relay | Total number of MS, having IP allocation through DHCP-relay, are registered with GGSN service session on this system. |
| ip-type-unknown | Total number of MS, having IP allocation through unknown method, are registered with GGSN service session on this system. |
| ip-type-no-alloc | Total number of MS, having no IP allocation, are registered with GGSN service session on this system. Generally IP allocation for a Multicast session of this type. |
| ip-type-static-nrpca | Total number of MS, having static IP allocation through network requested PDP context activation, are registered with GGSN service session on this system. |
| in bytes dropped | Total number of bytes dropped in downlink (from PDN) direction for GGSN service session on the system. |
| out bytes dropped | Total number of bytes dropped in uplink (to PDN) direction for GGSN service session on the system. |
| in packet dropped | Total number of packets dropped in downlink (from PDN) direction for GGSN service session on the system. |
| out packet dropped | Total number of packets dropped in uplink (to PDN) direction for GGSN service session on the system. |
| in packet dropped due to zero mbr | <p>Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber.</p> <p>This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.</p> |

| Field | Description |
|------------------------------------|---|
| out packet dropped due to zero mbr | <p>Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber.</p> <p>This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.</p> |
| out packet dropped due to lorc | <p>Indicates the number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber.</p> <p>This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.</p> |
| ipv4 ttl exceeded | Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session. |
| ipv4 bad hdr | Indicates the number of IPv4 packets received with bad headers. |
| ipv4 bad length trim | Indicates the number of IPv4 packets received with bad trimming of packet length. |
| ipv4 frag failure | Indicates the number of IPv4 packet fragments that were transmitted. |
| ipv4 frag sent | Indicates the number of IPv4 packets that could not be fragmented. |
| ipv4 in-acl dropped | <p>Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation.</p> <p>This counter may increment even if no ACL is configured.</p> |
| ipv4 out-acl dropped | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv6 bad hdr | Indicates the number of IPv6 packets received with bad headers. |
| ipv6 bad length trim | Indicates the number of IPv6 packets received with bad trimming of packet length. |
| ipv6 in-acl dropped | <p>Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation.</p> <p>This counter may increment even if no ACL is configured.</p> |
| ipv6 out-acl dropped | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv4 in-css-down dropped | Indicates the number of input packets dropped because the CSS service is yet not up or the service went down. |

| Field | Description |
|---------------------------|---|
| ipv4 out-css-down dropped | Indicates the number of output packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 early pdu rcvd | The current total number of early IP packet data units (PDUs) received. |
| ipv4 icmp packets dropped | Indicates the total number of IPv4 ICMP packets dropped for GGSN service on this system. When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped. |
| dormancy count | Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the GGSN session on this system. |
| handoff count | The total number of subscriber sessions handed off for GGSN service on this system. |
| Bearer not ready | Indicates the total number of instances when bearer was not ready and data received for session. |
| output bytes dropped | Indicates the cumulative number of bytes dropped for all GGSN subscriber session on this system. |
| output pkts dropped | Indicates the cumulative number of bytes dropped for all GGSN subscriber session on this system. |
| ggsn preservation mode | Indicates whether "Preservation-Mode" is enabled or not. Note that this is a customer-specific feature and may not be available for other users. |
| Direct Tunnel Bearers | Indicates total number of bearer contexts active for direct tunnel support for SGSN with this GGSN service on system. |
| ggsn LORC state | Indicates the number of session where overcharging protection is enabled due to loss of radio coverage. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC. |

show subscribers ggsn-only all

Table 579: show subscribers ggsn-only all Command Output Descriptions

| Field | Description |
|---------|--|
| vvvvvvv | Displays service and session state information. This column provides a code consisting of seven characters. |
| | From left-to-right, the first character represents the Network Type that the subscriber is using. See |
| | The second character represents the network Access Tech that the subscriber is using. See |
| | The third character represents the Call State . See |
| | The fourth character (ggsn-only output) represents the Traffic Class . The possible traffic classes are: <ul style="list-style-type: none"> - C: Conversational - S: Streaming - B: Background - 1: Interactive 1 - 2: Interactive 2 - 3: Interactive 3 - x: Not Applicable |
| | The fifth character represents the Network Type of the session. See |
| | The sixth character (ggsn-only output) represents the PLMN of the session. The possible network types are: <ul style="list-style-type: none"> - H: Home - V: Visiting - R: Roaming - u: Unknown |
| | The seventh character (ggsn-only output) represents the Emergency Bearer Type of the session. The possible emergency bearer types are: <ul style="list-style-type: none"> - A: Authentic IMSI - U: Un-Authentic IMSI - O: Only IMEI - N: Non-Emergency |

| Field | Description |
|--------------|--|
| CALLID | Displays the subscriber's call identification (callid) number. |
| IMSI/IMEI | Displays the International Mobile Subscriber Identity (IMSI) number (ggsn-only output) if the Emergency Bearer Type is Authentic IMSI and/or Non-Emergency. If the Emergency Bearer Type is Un-Authentic IMSI and/or Only IMEI, the International Mobile Equipment Identity (IMEI) number is displayed. |
| NSAPI | Displays the Network Service Access Point Identifier (ggsn-only output). |
| Address type | Displays the Address type (ggsn-only output) for the subscriber's session. The possible address types are: <ul style="list-style-type: none"> - S: Static (Subscriber Supplied) - L: Local pool - RA: RADIUSAAA - assigned - d: via DHCP proxy - D: via DHCP relay - u: Unknown |
| IP | Displays the IP address assigned to the subscriber. |
| APN | Displays the Access Point Name for the session (ggsn-only output). |
| Gn-APN | Displays the APN that comes in CPC. If there is no virtual-apn resolution, both Gi & Gn APN are the same. |
| Gi-APN | Displays the APN finally selected by the GGSN based on the virtual-apn configuration. If there is no virtual-apn resolution, both Gi & Gn APN are the same. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers ggsn-only full

Table 580: show subscribers ggsn-only full Command Output Descriptions

| Field | Description |
|----------|---|
| Username | The name of the subscribers using GGSN service. |

| Field | Description |
|------------------------|---|
| Status | Indicates the session status. Possible status are: - Online/Active - Offline/Inactive |
| Access Type | Indicates the session type for this subscriber. See Access Types, on page 2300 . |
| Network Type | Indicates the network service used for the subscriber session. See Network Types, on page 2303 . |
| Access Tech | Indicates the accessing technology. See Access Technologies, on page 2302 . |
| Access Network Peer ID | Indicates the identifier of the peer in access network. |
| callid | The subscriber's call identification number (callid). |
| imsi | The subscriber's International mobile station identification (IMSI). |
| state | The session state. The possible values are: - Connected - Connecting - Disconnecting - Unknown |
| SGSN cntl address | IP address of SGSN system in network for control messages. |
| SGSN data address | IP address of SGSN system in network for data traffic messages. |
| Protocol User Name | User name of protocol. |
| MSISDN | The Mobile Station International ISDN Number of subscriber node. |
| Emergency Bearer Type | Bearer type set as emergency. Possible values are: - Only IMEI - Authentic IMSI - Un-Authentic IMSI In case of the non-emergency bearer type, the value displayed is N/A. |
| connect time | The time of connection of this subscriber. |
| call duration | Duration of call session. |
| idle time | Duration of idle status of call session, when no activity detected for this session. |

| Field | Description |
|---|--|
| IMEI(SV) | International mobile equipment identification- software version of connected subscriber. |
| SGSN-MCC-MNC | Mobile country code (MCC) and mobile network code (MNC) of SGSN connected for this call. |
| ULI | Indicates the user location information. The possible values are: <ul style="list-style-type: none"> - CELL ID <ul style="list-style-type: none"> • MCC: Mobile Country Code • MNC: Mobile Network Code • LAC: Location Area Code • CI: Cell Identity -Absent |
| SGSN RAI | Indicates the Routing Area Identity (RAI) of the SGSN connected to this call. The possible values are: <ul style="list-style-type: none"> - MCC - MNC - Unknown |
| Gi-APN | Access point name used for this session on Gi interface, towards PDN. |
| NSAPI | Identifier for Network Service Access Point (NSAP) index. |
| Gn-APN | Access point name used for this session on Gn interface, in network side between GSNs. |
| S6b Returned Virtual APN | Displays the S6b returned full virtual APN name, if the Virtual APN Truncation feature is enabled. Otherwise, it displays 'n/a'. For more information on this feature, see the <i>Rf Interface Support</i> chapter in the administration guide of the product you are deploying. |
| Restoration priority level | Identifies the restoration priority value associated with the PND connection. |
| Total subscribers matching specified criteria | Identifies the total number of subscribers matching criteria for restoration priority value associated with the PND connection. |
| IMS Auth Service | Indicates whether IMS authorization (Gx) interface support is enabled or not. |
| S6b Auth Status | Indicates whether S6b interface authorization is enabled or not. |

| Field | Description |
|--------------------------|---|
| GGSN Preservation Mode | Indicates whether preservation-mode support for GGSN is enabled or not. Note: This is a customer-specific counter that requires a customer-specific license. |
| Vendor Id | Indicates the identification of vendor who uses GGSN preservation mode feature. |
| GGSN LORC State | Indicates the state of the overcharging protection feature for specific subscriber. Possible status are: - Yes (overcharging protection is enabled) - No (overcharging protection is enabled) - N/A (overcharging protection is not applicable) This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QoS change with GTP-C extension for LORC. |
| GGSN Bearer Control Mode | Indicates whether network controlled QoS negotiation enabled or not and also the mode applicable for bearer control for this. Possible values are: - MS-Only - Mixed (MS and Network) |
| FOCS | Indicates whether free of charge service is enabled or not. Note: This is a customer-specific service that requires a customer-specific license. |
| ODB | Indicates whether Operator Determined Barring is enabled or not. Note: This is a customer-specific service that requires a customer-specific license. |
| ip address | Indicates the primary IP address of the subscriber interface in the session. |
| ggsn-service-name | The name of the GGSN service for this subscriber. |
| GTPU Address | GTP-U/data address of the subscriber, which can be either of the IPv4/IPv6 address. |
| gtpu-service-name | The name of the GTP-U service associated with the 'ggsn-service-name', which can be bound with one or more addresses. |
| initiated by | Indicates whether QoS initiated by MS or network. |

| Field | Description |
|----------------------|---|
| Subscriber Type | Indicates the type of subscriber. Possible values are Visiting or Home. |
| Accounting mode | Indicates the accounting mode applicable for this subscriber: Possible modes are: - gtp - none - radius-diameter |
| APN Selection mode | Indicates the APN selection mode applicable for this subscriber: Possible modes are: - Chosen by SGSN - Sent by MS - Subscribed |
| ip allocation type | Indicates the IP allocation type applicable for this subscriber: Possible types are: - DHCP proxy - DHCP relay - local pool - AAA |
| gtp version | Indicates the GTP version used for this subscriber: Possible versions are 0 and 1. |
| ipv6 allocation type | Indicates the allocation method by which the IPv6 address has been allocated. The possible values are: - local pool (allocated from local pool) - dhcpv6-proxy (allocated by DHCP server) - aaa (S6b or AAA returned IP address) - no-dynamic (Static IP address) - unknown - N/A |
| ggsn c-teid | Indicates the GGSN Tunnel Endpoint Identifier (TEID) for GTP-C messages. |
| ggsn u-teid | Indicates the GGSN Tunnel Endpoint Identifier (TEID) for GTP-U messages. |
| sgsn c-teid | Indicates the SGSN Tunnel Endpoint Identifier (TEID) for GTP-C messages. |

| Field | Description |
|------------------------------|---|
| sgsn u-teid | Indicates the SGSN Tunnel Endpoint Identifier (TEID) for GTP-U messages. |
| charging id | Indicates the charging identifier for this subscriber. |
| charging chars | Specifies the charging characteristics behavior applicable for this subscriber session. |
| access-link ip-frag | Configures IP fragmentation processing over the Access-link. |
| ignore DF-bit data-tunnel | Indicates if whether during Mobile IP tunneling, the DF bit is not ignored and packets are not fragmented. |
| traffic flow template | The name of the traffic flow template (TFT) applicable for this subscriber session. |
| Source context | The name of a configured source context from which the subscriber initiates a session. |
| Destination context | The name of a configured destination context through which the subscriber is provided access to the packet data network. |
| Authentication context | The name of a configured authentication context from which the subscriber gets authentication. |
| Accounting context | The name of a configured accounting context through which the subscriber is provided accounting of data session. |
| Mediation context | The name of a configured mediation context to use for communicating with the mediation device. If this context is not specified in APN configuration mode, the destination context will be used. |
| Mediation no early PDUs | Specifies whether or not the no-early-pdu option is configured for this subscriber. If no-early-PDUs is enabled, the chassis does not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the mediation device. On receiving the Acct-Rsp, pending PDUs are sent out. |
| Mediation No Interims | Specifies whether or not the no-interims option configured for this subscriber. If no-interims is enabled, the chassis does not send any interim message to the mediation device. |
| Mediation Delay GTP Response | Specifies whether or not the delay-GTP-response option is configured for this subscriber. When enabled, this option delays the Create PDP Context response until an Accounting Start response is received from the mediation device. |

| Field | Description |
|-------------------------------|---|
| active input acl | The active IPv4 access control list (ACL) for inward traffic. |
| active output acl | The active IPv4 access control list (ACL) for outward traffic. |
| active input IPv6 acl | The active IPv6 access control list (ACL) for inward traffic. |
| active output IPv6 acl | The active IPv6 access control list (ACL) for outward traffic. |
| ECS Rulebase | The rulebase applicable for this subscriber when ECS is enabled. |
| CBB-Policy | The CBB policy associated with the subscriber. |
| Firewall Policy | Indicates whether firewall processing for this subscriber is enabled. |
| CF Policy ID | The identifier of content filtering policy ID. |
| active input pley grp | The active input policy group for inward traffic flow. |
| active output pley grp | The active output policy group for outward traffic flow. |
| Layer 3 tunneling | Indicates if Layer 3 tunneling is enabled. |
| alloc/retention priority | Indicates the traffic handling priority for quality of service (QOS) differentiated service code point (DSCP) if the allocation priority is present in the QOS profile. Possible priorities are 1, 2 or 3. |
| traffic class | Indicates the class of traffic applied for quality of service (QOS) in this subscriber session. Possible classes are: <ul style="list-style-type: none"> - background - conversational - interactive - streaming |
| traffic priority | Indicates the priority for interactive class of traffic for this subscriber session. Possible priorities are 1, 2 or 3. |
| delivery order | Specifies the delivery order included in service data unit (SDU) for packets to this subscriber. |
| Negotiated MBR for up (bps) | Indicates the maximum bit rate in bits per seconds negotiated for this subscriber in uplink direction. |
| Negotiated MBR for down (bps) | Indicates the maximum bit rate in bits per seconds negotiated for this subscriber in downlink direction. |
| Negotiated GBR for up (bps) | Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in uplink direction. |
| Negotiated GBR for down (bps) | Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in downlink direction. |

| Field | Description |
|-------------------------------|---|
| Negotiated GBR for down (bps) | Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in downlink direction. |
| Downlink APN AMBR (bps) | Indicates the aggregate maximum bit rate in bits per second set in downlink direction for APN. |
| Uplink APN AMBR (bps) | Indicates the aggregate maximum bit rate in bits per second set in uplink direction for APN. |
| PCRF Authorized Bearer | This group displays the PCRF authorized QoS attributes for GGSN service. |
| QCI | Indicates the QoS Class Identifier (QCI) received through authorized bearer QoS for GGSN service. Possible values are between 1 through 9. |
| ARP | Indicates the Allocation and Retention Priority (ARP) set in authorized bearer QoS for GGSN service. Possible values are between 1 through 3. |
| PCI | Indicates the Preemption Capability Indicator (PCI) value in ARP in authorized bearer QoS for GGSN service. Possible values are: 0 - disabled 1 - enabled |
| PL | Indicates the Priority level (PL) value in ARP in authorized bearer QoS for GGSN service. Possible values are between 1 through 15. |
| PVI | Indicates the Preemption Vulnerability Indicator (PVI) value in ARP in authorized bearer QoS for GGSN service. Possible values are: 0 - disabled 1 - enabled |
| MBR uplink (bps) | Indicates the maximum bit rate (MBR) value in bit per second for uplink direction in authorized bearer QoS for GGSN service. |
| MBR downlink (bps) | Indicates the maximum bit rate (MBR) value in bit per second for downlink direction in authorized bearer QoS for GGSN service. |
| GBR uplink (bps) | Indicates the guaranteed bit rate (GBR) value in bit per second for uplink direction in authorized bearer QoS for GGSN service. |
| GBR downlink (bps) | Indicates the guaranteed bit rate (GBR) value in bit per second for downlink direction in authorized bearer QoS for GGSN service. |

| Field | Description |
|---|---|
| APN AMBR uplink (bps) | Indicates the aggregate maximum bit rate (AMBR) in bits per second set in uplink direction for APN. |
| APN AMBR downlink (bps) | Indicates the aggregate maximum bit rate (AMBR) in bits per second set in downlink direction for APN. |
| Ran procedure pkts buffered | Indicates the total number of packets buffered in sub-system waiting for RAB setup ready flag. This is enabled for RAN Procedure Ready delay buffering feature for GGSN service used by this subscriber. Buffer limit is 1024 packets. |
| Ran procedure buffer overflow pkts drop | Indicates the total number of packets dropped after sub-system buffer was full (buffer limit is 1024 packets) and GGSN is still waiting for RAB setup ready flag. This is enabled for RAN Procedure Ready delay buffering feature for GGSN service used by this subscriber. |
| Downlink traffic-negotiate-limit | Indicates whether traffic flow negotiate limit is configured for this subscriber under traffic policing feature in downlink direction. |
| Downlink traffic-rate-limit | Indicates whether traffic flow rate limit is configured for this subscriber under traffic shaping feature in downlink direction. |
| Uplink traffic-negotiate-limit | Indicates whether traffic flow negotiate limit is configured for this subscriber under traffic policing feature in uplink direction. |
| Uplink traffic-rate-limit | Indicates whether traffic flow rate limit is configured for this subscriber under traffic shaping feature in uplink direction. |
| Downlink traffic-shaping | Indicates whether traffic shaping is enabled or not for this subscriber under traffic shaping feature in downlink direction. Possible states are Enabled or Disabled. |
| Uplink traffic-shaping | Indicates whether traffic shaping is enabled or not for this subscriber under traffic shaping feature in uplink direction. Possible states are Enabled or Disabled. |
| Peak data rate(bps) | Indicates the peak data rate allowed in downlink/uplink direction through traffic rate limiting. |
| Guaranteed data rate(bps) | Indicates the guaranteed data rate allowed in downlink/uplink direction through traffic rate limiting. |
| Burst Size | This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN. |
| Auto Readjust | Indicates whether auto readjustment of burst size is enabled or not. Possible states are Enabled or Disabled. |

| Field | Description |
|------------------------------|---|
| Auto Readjust Duration | Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second. |
| Peak Burst Size(bytes) | Indicates the peak burst size in bytes calculated dynamically by auto readjust duration and rate limit value. |
| Guaranteed Burst Size(bytes) | Indicates the guaranteed burst size in bytes calculated dynamically by auto readjust duration (seconds) and rate limit value (bytes). This counter is applicable only when auto readjustment is enabled. |
| Peak data rate(bps) | Indicates the peak data rate configured for this subscriber in bits per seconds. |
| Guaranteed data rate(bps) | Indicates the guaranteed data rate configured for this subscriber in bits per seconds. |
| Downlink CSS Information | This group provides the information regarding content steering service for downlink traffic. |
| Service Name | Name of the content steering service applicable for downlink traffic. |
| downlink pkts to svc | Total number of packets from subscriber node (downlink direction) sent to CSS service. |
| downlink pkts from svc | Total number of packets from CSS service sent to subscriber node (downlink direction). |
| Uplink CSS Information | This group provides the information regarding content steering service for uplink traffic. |
| Service Name | Name of the content steering service applicable for uplink traffic. |
| uplink pkts to svc | Total number of packets from PDN/Internet (uplink direction) sent to CSS service. |
| uplink pkts from svc | Total number of packets from CSS service sent to PDN/Internet (uplink direction). |
| Bearer Establishment | Indicates the status of bearer establishment. |
| Bearer not ready | This group indicates the number of bytes dropped when bearer was ready. |
| IM-CN Signaling Context | Specifies the name of the signaling context used for IM-CN (IP Multimedia-Core Network) for interoperability with IP multimedia subsystem (IMS) service. |
| input pkts | Indicates the number of packets received. |
| output pkts | Indicates the number of packets transmitted. |

| Field | Description |
|-------------------------------------|--|
| input bytes | Indicates the number of bytes received. |
| output bytes | Indicates the number of bytes transmitted. |
| input bytes dropped | Indicates the number of bytes that were dropped while receiving data for this subscriber session. |
| output bytes dropped | Indicates the number of bytes that were dropped while transmitting data for this subscriber session. |
| input pkts dropped | Indicates the number of packets that were dropped while receiving data for this subscriber session. |
| output pkts dropped | Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets. |
| input pkts dropped due to zero mbr | Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| output pkts dropped due to zero mbr | Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services. |
| out packet dropped due to lorc | Indicates the number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC. |
| pk rate from user(bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(bps) | The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |

| Field | Description |
|----------------------------|---|
| ave rate from user(bps) | The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(bps) | The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| pk rate from user(pps) | The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(pps) | The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(pps) | The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(pps) | The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(pps) | The mean data rate, in packets per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(pps) | The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| link online/active percent | The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds. |
| ipv4 bad hdr | Indicates the number of IPv4 packets received with bad headers. |
| ipv4 ttl exceeded | Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session. |
| ipv4 fragments sent | Indicates the number of IPv4 packet fragments that were transmitted. |

| Field | Description |
|------------------------------|--|
| ipv4 could not fragment | Indicates the number of IPv4 packets that could not be fragmented. |
| ipv4 input acl drop | Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured. |
| ipv4 output acl drop | Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation. |
| ipv4 input css down drop | Indicates the number of input packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 output css down drop | Indicates the number of output packets dropped because the CSS service is yet not up or the service went down. |
| ipv4 output xoff pkts drop | Indicates the number of packets dropped because of flow control. |
| ipv4 output xoff bytes drop | Indicates the number of bytes dropped because of flow control. |
| ipv4 source violations | Indicates the number of IPv4 source validation violations. |
| ipv4 proxy-dns redirect | The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber. |
| ipv4 proxy-dns pass-thru | The number of foreign DNS request packets allowed through the intercept filter for the subscriber. |
| ipv4 proxy-dns drop | The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber. |
| ip source violations no acct | The IP source validation violations that were detected but not included in the statistics. |
| ip source violations ignored | The IP source validation violations that were detected but then ignored. |
| ipv4 output no-flow drop | The number of IP packets not matching traffic classifier and dropped for the subscriber. |
| dormancy total | Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. |
| handoff total | The total number of subscriber sessions handed off. |
| ipv4 icmp packets dropped | When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped. |
| DHCP context | Name of the system context in which DHCP service is configured. |
| DHCP service | Name of the DHCP service configured for this subscriber. |

| Field | Description |
|---|--|
| DHCP server | Name of the DHCP servers configured for this subscriber for DHCP function. |
| DHCP lease expiry policy | Specifies the DHCP address lease expiry policy. Possible actions are autoconnect or disconnect |
| DHCP lease obtained | Specifies the whether lease obtained after lease expiry or not. |
| DHCP lease remaining | Specifies the status of lease obtained for DHCP allocated IP address. |
| Total subscribers matching specified criteria | The total number of subscribers matching the specified criteria. |

show subscribers gprs-only full

Table 581: Show subscribers gprs-only full Command Output Descriptions

| Field | Description |
|--------------|---|
| Access Type | Number of GPRS access type, for the subscriber. Possible categories are: SGSN or GGSN. |
| Access Tech | Number of access technologies associated with the PLMN that is being accessed by the Mobile Station (MS). The Access Tech can be: <ul style="list-style-type: none"> - GPRS GERAN - GSM COMPACT - UTRN - E-UTRN |
| Network Type | Network type associated with the PLMN or HPLMN on the PLMN selector. The MS uses this information to select the type of radio carrier for searching, while attempting to select a specific PLMN. Network Type can be: <ul style="list-style-type: none"> - IP - IP Sec - Mobile IP |
| msid | Displays the Mobile Station Identification (MSID) associated with the subscriber. |
| Callid | Displays the subscriber's call identification number. |

| Field | Description |
|--------------------------|---|
| State | Displays the state of GPRS session in the Mobile Station. Data transfer between MS and network depends on this state. The state can be: <ul style="list-style-type: none"> - Idle - Stand by - Active - Ready |
| RFSP Id in Use | Displays the value of the RFSD Id. used. |
| Connect Time | The date and time when the call was connected to the GPRS network in Day MM DD HH:MM:SS YYYY format. |
| Call Duration | Total time lapsed after call connection, for this subscriber. Displayed in format hhmss. |
| Idle Time | Time period for which the subscriber session has been idle either in standby or dormant state. Displayed in format hhmss. |
| User Location (RAI) | This is the Routing Area Indicator (RAI). It indicates user location in GPRS network. |
| Cell Global Identity | Cell Global Identity (CGI) indicates a category of user location information that can be used to geographically locate the connected MS. |
| IMEI (SV) | International Mobile Identity (IMEI) Software Version (SV) associated with MS. |
| Equipment Status | Equipment status of the mobile equipment, queried from Equipment Identity Registry (EIR). |
| Source Context | Name of configured source context that was used for session initiation. |
| Destination Context | Name of configured destination context that was used by the subscriber to access the network. |
| Accounting Context | The context name where accounting information is configured or where an accounting interface is configured. It can be used to provide accounting of the data session to the subscriber. |
| Charging Characteristics | Displays associated charging characteristics. It can be: <ul style="list-style-type: none"> - Hot Billing - Flat Rate Billing - Prepaid Billing - Normal Billing |

| Field | Description |
|--------------------------------|--|
| Characteristics Selection Mode | The selection mode of charging characteristics that is applicable to this session. For example selection mode can be Home or Roaming. |
| Subscriber Plmn Type | Category of subscriber's Public Land Mobile Network (PLMN). Possible values are: <ul style="list-style-type: none"> - H: home Networks - F: Foreign Networks - U: Unknown Networks |
| PPF | The Page Proceed Flag (PPF) indicates whether paging for PS and CS services can be initiated. Possible values are True or False. |
| NGAF | The Non Gprs Alert Flag (NGAF), indicates whether the MS activity is being reported to MCSC or VLR. Possible values for this flag are True or False. |
| VLR-Reliable | This flag is set to False when SGSN has received a reset indication from the VLR. The SGSN, upon reception of next Routing Area Update (RAU), may request the MS a procedure to re-attach to non-GPRS services provided that the MS is IMISI attached to such non-GPRS request. Alternately, the SGSN, upon reception of a combined RAU and Location Area Update (LAU) request from an MS that is still attached to non-GPRS service, performs location update procedure for such non-GPRS service. |
| VLR – Association | States associated with the Gs interface in the VLR. Possible states are: <ul style="list-style-type: none"> - GS NULL - LA UPDATE PRESENT - Gs ASSOCIATED |
| NRI Assigned | Assigned Network Resource Indicator (NRI). The NRI is utilized when either Iu-flex or Gb-flex or MOCN configuration is used for network sharing. |
| ISR – Activated | The activation status of Idle mode Signaling Reduction (ISR). This status can either be True or False. |
| MME Ctrl Teid | S4-SGSN only : If the ISR-Activated field reads True , this field provides the MME Control Tunnel Endpoint Identifier. The Ctrl TEID identifies the specific S3 tunnel on the MME being used for this ISR-activated subscriber. |
| MME IP Address | S4-SGSN only : If the ISR-Activated field reads True , this field provides the IP address of the MME associated with this ISR-activated subscriber. |

| Field | Description |
|--|--|
| Nego Ready Timer | This value is sent from SGSN to MS. It indicates timeout ready timer value. Its range is from 0 to 11160 seconds the default value is 44 seconds. |
| MS Network Capacity | <p>The MS network capacity elements provide MS information related to GPRS network. These elements indicate general Mobile Station (MS) characteristics, hence are independent of the frequency band of the channel for which this capability is set.</p> <p>The MS network capacity specifies parameters such as:</p> <ul style="list-style-type: none"> - Revision level indicator - SoLSA capacity - SS screening indicator - Whether UCS2 character set is enabled - SMS via GPRS Channel - Whether or not GPRS Encryption Algorithm - GEA1 to GEA 7 are supported - LCS VA |
| Revision Level Indicator (MS Network Capability) | The 3GPP released version that is supported by the MS network capability. |
| SoLSA Capability (MS Network Capability) | Specifies whether the Support of Localized Service Area (SoLSA) is included in the MS network capability. |
| SS Screening Indicator (MS Network Capability) | Category of Supplemental Services (SS) screening indicator that is being sent by MS to the network to assess the capabilities of the MS. This indicator is sent by the MS at the beginning of the radio connection. |
| UCS2 (MS Network Capability) | Specifies whether the Universal Character Set 2 (UCS-2) encoding for the character is supported or whether the use of default alphabet is supported. |
| SMS via GPRS CH (MS Network Capability) | Specifies whether the MS support for mobile terminated point to point SMS via GPRS channel is included in the MS network capability. |
| SMS via Dedicated CH (MS Network Capability) | Specifies whether the MS support for mobile terminated point to point SMS via a dedicated GPRS channel is included in the MS network capability. |
| GEA/1 (MS Network Capability) | Specifies whether support for GEA1 is included in the MS network capability. |
| GEA/2 (MS Network Capability) | Specifies whether support for GEA2 is included in the MS network capability. |

| Field | Description |
|--|---|
| GEA/3 (MS Network Capability) | Specifies whether support for GEA3 is included in the MS network capability. |
| GEA/4 (MS Network Capability) | Specifies whether support for GEA4 is included in the MS network capability. |
| GEA/5 (MS Network Capability) | Specifies whether support for GEA5 is included in the MS network capability. |
| GEA/6 (MS Network Capability) | Specifies whether support for GEA6 is included in the MS network capability. |
| GEA/7 (MS Network Capability) | Specifies whether support for GEA7 is included in the MS network capability. |
| Negotiated ciphering algorithm | The ciphering algorithm negotiated by the SGSN and MS during Authentication and Ciphering Request. |
| LCS VA Capability (MS Network Capability) | Specifies whether the Location Services Value Add (LCS VA) capability is included or not in the MS network capacity. |
| DRX Parameter | <p>Discontinuous Reception (DRX) is used when the MS is in the packet idle mode. If MS is using the discontinuous reception, then the DRX parameters indicate whether the MS is in no-sleep mode and is able to receive paging requests and channel assignments. GPRS uses two DRX modes namely, normal DRX and split paging DRX.</p> <p>Following are the DRX parameters:</p> <ul style="list-style-type: none"> - Split PG cycle code - Split on CCCH - Non-DRX timer - CN Specific DRX cycle length coefficient. |
| SPLIT PG Cycle Code (DRX Parameter) | displays the cycle code for the split paging mode. |
| SPLIT on CCCH (DRX Parameter) | Specifies whether split on Common Control Channel (CCCH) is supported or not. |
| Non-DRX timer (DRX Parameter) | Value of non-DRX timer transfer state, displayed in seconds. |
| CN Specific DRX cycle length coefficient (DRX Parameter) | <p>Specifies the Core Network (CN) specific DRX cycle length coefficient support by MS.</p> <p>An MS can be attached to either circuit or packet domain of CN. For the circuit domain the MS uses the circuit domain CN- domain specific cycle length coefficient broadcast in system information.</p> |
| Uplink Coverage Class | Specifies the uplink coverage class value of the subscriber. |
| Downlink Coverage Class | Specifies the downlink coverage class value of the subscriber. |

| Field | Description |
|--|--|
| Current PTMSI | Current value of Packet Temporary Mobile Subscriber Identity (P-TMSI). P-TMSI gets attached to the MS when GPRS attach procedure is performed. P-TMSI is used to avoid transmitting the IMSI over air interface. P-TMSI is only applicable in the geographical area served by the SGSN. When the MS move to another geographical area, a new P_TMSI gets attached to the MS. |
| Current PTMSI Acked by MS | Acknowledgement status of current P_TMSI by the MS. Possible values are yes and no. |
| Any Previous PTMSI | Specifies whether any previous P-TMSI value is available for this MS. |
| MNRG Flag | Current value of Mobile station Not Reachable in GPRS (MNRG) flag. This flag is found in Home Location Register (HLR) and it indicates whether SGSN can reach this MS. Possible values for this flag are true and false. |
| Subscriber offload status | Indicates the subscriber offload status. |
| NRI Assigned | Number of assigned Network Resource Indicators (NRIs).An NRI is a part of TMSI in CS domain and P-TMSI in PS domain. |
| Number of Free Vectors | Number of free authentication vectors available for the Universal Subscriber Identity Module (USIM) that is associated with the MS. |
| Number of Used Vectors | Number of authentication vectors used by the Universal Subscriber Identity Module (USIM) associated with the MS. |
| Number of In-Use Vectors | Indicates the number of authentication vectors that are being used by the Universal Subscriber Identity Module (USIM) that is associated with the MS. |
| MSISDN (Subscription Data) | The Mobile Station Integrated Subscriber Digital Network Number (MSISDN) associated with the MS. It uniquely identifies a subscription in a mobile network. |
| Charging Characteristics (Subscription Data) | Associated charging characteristic profile. It can be hot or normal or pre-paid or flat billing. |

| Field | Description |
|--|---|
| ODB General Data | <p>Operator Determined Barring (ODB) data. The ODB is an unsigned 32-bit Attribute Value Pair (AVP) containing a bit mask that indicates the services barred by the operator.</p> <p>As per the bit mask:</p> <ul style="list-style-type: none"> - Bit 0 bars all packet oriented services. - Bit 1 bars roamer access HPLMN-AP. - Bit 2 bars roamer access VPLMN- AP. - Bit 3 bars all outgoing calls. - Bit 4 bars all outgoing international calls. - Bit 5 bars all outgoing international calls except to the home PLMN country. - Bit 6 bars all outgoing inter-zonal calls. - Bit 7 bars all outgoing inter-zonal calls, except to the home PLMN country. - Bit 8 bars all outgoing international calls, except to the home PLMN country and barring of all inter-zonal calls. <p>The following parameters constitute the ODB general data:</p> <ul style="list-style-type: none"> - All Out Going Calls. - All International Outgoing Calls. - All International Outgoing Not To HPLMN Country Calls. - All Interzonal Outgoing Calls. - All Interzonal And International Outgoing Calls Not To HPLMN Country. - Roamer Access to VPLMN Access Point Barred. |
| All Out Going Calls (ODB-General-Data) | Specifies permission for all categories of outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred. |
| All International Outgoing Calls (ODB-General-Data) | Specifies the permission for international outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred |
| All International Outgoing Not To HPLMN Country Calls (ODB-General-Data) | Specifies permission for the international outgoing calls that are not made to Home Public Land Mobile Network (HPLMN). This is a parameter of ODB General Data. These calls can be barred or not-barred. |
| All Interzonal Outgoing Calls (ODB-General-Data) | Specifies the permission for the Interzonal outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred. |

| Field | Description |
|---|---|
| All Interzonal And International Outgoing Calls Not To HPLMN Country (ODB-General-Data) | Specifies the permission for all interzonal and international calls that are not made to HPLMN country. This is a parameter of ODB General Data. These calls can be barred or not barred. |
| Roamer Access to HPLMN Access Point Barred (ODB-General-Data) | Specifies whether or not the access point for roamer access to Home PLMN is barred. This is a parameter of ODB General Data. |
| Roamer Access to VPLMN Access Point Barred (ODB-General-Data) | Specifies whether or not the access point for roamer access to Visitor PLMN is barred. This is a parameter of ODB General Data. |
| ODB-HPLMN-Data | Specifies the availability of HPLMN data for Operator Defined Barring (ODB). |
| Zone-Code-List | Zone code list that can be associated with the subscription. A zone is combination of origin and destination area codes. Zoning information can be used for rating and charging purpose. |
| Tele-Service Code List | Code of the barred service (tele service) associated with this subscription. |
| HLR Number | The Home Location Register (HLR) associated with this subscription. |
| HLR-Reset Flag | Specifies the whether the HLR associated with this subscription was reset or not. Possible values of this flag are true and false. |
| HSS Peer | The name of the peer home subscriber server (HSS) service associated with this subscription. |
| Utran-not-allowed (ARD) | Value of UTRN –not –allowed flag in the Algorithm Requirements Document (ARD) associated with this subscription. Possible values are true or false. |
| Geran-not-allowed (ARD) | Value of GERAN –not –allowed flag in the Algorithm Requirements Document (ARD) associated with this subscription. Possible values are true or false. |
| Super-Charger Enabled | <p>Current value of Super-Charger Enabled flag. It can be either true or False.</p> <p>Subscriber movement across MSC or VLR forces the HLR to provision new serving MSC or VLR with the subscriber data by moving this data. These signaling procedures add significant overhead in the network traffic. Specifically in high population aerates where the MSC or VLR is handling significantly smaller geographical area. In s supercharged network the HLR does not remove subscriber data from old MSC or VLR and this data can be used when subscriber roams back to old MSC or VLR.</p> |

| Field | Description |
|--|--|
| SAI Version | Current version of SAI. The Service Area Identifier (SAI) is a combination of PLMN-id, Location Area Code (LAC) and Service Area Code (SAC). The SAI identifies an area consisting of one or more cells belonging to same LA. |
| EPS Subscription | Enhanced Packet Service (EPS) subscription data includes subscription related data. Refer the 3GPP technical standard 3GPP TS 23.016 and other related standards for more information. |
| PDP Context Id (PDP Subscription Data) | Identifies the PDP context for PDP subscription data. |
| APN (PDP Subscription Data) | Identifies the Access Point Name (APN) associated with this PDP subscription. |
| PDP Type (PDP Subscription Data) | Category of PDP context. For example it can be IPv4, IPv6 or PPP. |
| PDP Address Type (PDP Subscription Data) | Category or type of address allocation for PDP address. For example it can be static or dynamic. |
| PDP Address (PDP Subscription Data) | The IP address allocated for PDP packets. |
| Ext PDP Type (PDP Subscription Data) | Category or type of PDP context. For example, IPv4 or IPv6. |
| Ext PDP Address Type (PDP Subscription Data) | Category or type of address allocation for external PDP address. For example it can be static or dynamic. |
| Ext PDP address (PDP Subscription Data) | The IP address allocated for external PDP packets. |
| Charging Characteristics (PDP Subscription Data) | Category of charging characteristics associated with this PDP subscription. For example charging characteristics can be either normal billing or hot billing. |
| VPLMN Address Allowed (PDP Subscription Data) | Specifies whether the address of Visited Public Land Mobile Network (VPLMN) is allowed or not allowed. |
| Reliability Class (PDP Subscription Data) | Reliability class associated with the PDP subscription. It considers reliability attributes such as delivery order, traffic handling priority, as well as allocation and retention priority. For example reliability class for PDP subscription can be unacknowledged GTP, LLC, acknowledged RLC or protected data. |
| Delay Class (PDP Subscription Data) | Defined category of network transient delay for the PDP subscription data. For example class 4. |
| Precedence Class (PDP Subscription Data) | Service precedence delay supported by SGSN by discarding or allowing packets based on the precedence class for the PDP subscription. For example the precedence class for PDP subscription can be high priority. |

| Field | Description |
|---|---|
| Peak Throughput (PDP Subscription Data) | Configured maximum allowed throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping. |
| Mean Throughput (PDP Subscription Data) | Configured mean throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping. |
| Allocation/Retention Priority (PDP Subscription Data) | Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3. |
| Delivery of Erroneous SDUs (PDP Subscription Data) | Status of the delivery of erroneous Service Delivery Units (SDUs) for the PDP subscription. For example, it indicates whether the delivery of erroneous SDUs are detected. |
| Traffic Class (PDP Subscription Data) | Category of traffic associated with this PDP subscription. Traffic is broadly categorized as Conversational, Streaming, Background and Interactive. |
| Max Sdu Size (PDP Subscription Data) | Maximum allowable size of Service Data Units (SDUs) in octets, which is associated with this PDP subscription data. |
| Max Bit Rate Uplink (PDP Subscription Data) | Maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription. |
| Max Bit Rate Downlink (PDP Subscription Data) | Maximum allowable rate in kbps for sending the data from network to the MS, which is associated with the PDP subscription. |
| Residual Bit Error rate (PDP Subscription Data) | Reliability based on residual Bit Error Rate (BER) associated with PDP subscription. For specific traffic class such as conversational, streaming, interactive or background, certain range of residual BER is required. |
| Sdu Error rate (PDP Subscription Data) | Reliability class based on Service Delivery Unit (SDU) error rate associated with the PDP subscription. For specific traffic class such as Conversational, Streaming, Interactive or background, certain range of SDU error rate is required. |
| Traffic Handling Priority (PDP Subscription Data) | Priority or importance of handling SDUs belonging to a specific context associated with the PDP subscription. |
| Transfer Delay (PDP Subscription Data) | Delay encountered in milliseconds (ms), while delivering about 95% of SDUs associated with the PDP context, in the life time of the bearer service. |
| Guaranteed Bit Rate Uplink (PDP Subscription Data) | Guaranteed number of bits delivered by MS to network in kbps for the associated PDP context. |
| Guaranteed Bit Rate Downlink (PDP Subscription Data) | Guaranteed number of bits delivered by network to MS, in kbps for the associated PDP context. |

| Field | Description |
|----------------------------------|---|
| APN (User Name) | Access Point Name used by the Mobile Station (MS) to communicate with the GPRS network. It determines the IP addresses used by and security methods applicable to the MS. |
| PDP address (User Name) | IP address associated with the PDP context that is being used by this user name or subscriber. |
| NSAPI (User Name) | Network (layer) Service Access Point Identifier (NSAPI) that is being used to identify the unique data session or the PDP context associated with the MS and the SGSN. |
| Context initiated by (User Name) | Context or session initiated by the user name. |
| LLC SAPI (User Name) | Logical Link Control Service Access Point Identifier LLC SAPI associated with this user name. |
| Context Plmn Type (User Name) | PLMN context associated with the MS. IT can be home or roaming. |
| GGSN c-teid (User Name) | GGSN control plane Tunnel Endpoint Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the Gprs Tunneling Protocol (GTP) tunnel that is being established between two GPRS nodes to deliver packets. |
| GGSN u-teid (User Name) | GGSN user plan Tunnel End Point Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the GTP tunnel that is being established between two GPRS nodes to deliver packets. |
| SGSN c-teid (User Name) | SGSN control plane Tunnel Endpoint Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the Gprs Tunneling Protocol (GTP) tunnel that is being established between two GPRS nodes to deliver packets. |

| Field | Description |
|-----------------------------------|---|
| SGSN u-teid (User Name) | <p>SGSN user plan Tunnel End Point Identifier (teid), that is associated with this subscription.</p> <p>The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the GTP tunnel that is being established between two GPRS nodes to deliver packets.</p> |
| Requested and Negotiated QoS | <p>A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as:</p> <ul style="list-style-type: none"> - Traffic class - Reliability class - Delay class - Maximum bit rate uplink throughput - Maximum bit rate downlink throughput - Guaranteed bit rate downlink throughput - Residual bit error rate - SDU error rate - Traffic handling priority - Transfer delay <p>Using these parameters an MS requests the network with specific values for the QoS profile parameters and the network provides the negotiated values of the profile parameters. There can be a difference between the values of the QoS parameters requested by the Mobile Station (MS), and those negotiated with the network.</p> |
| Reliability Class (Requested-QoS) | <p>It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling as well as allocation or retention priority. Possible values are unchecked GTP, LLC, acked RLC and protected data. This indicates a QoS parameter value requested by the MS to the network.</p> |
| Delay Class (Requested-QoS) | <p>It is a QoS attribute associated with traffic flow, the delay class indicates network transient delay. This indicates a QoS parameter value requested by the MS to the network.</p> |
| Precedence Class (Requested-QoS) | <p>It is a QoS attribute that indicates the service precedence supported by the GPRS network by discarding packets, based on requested and negotiated precedence class. For example a precedence class can have Priority values as high, Normal and Low.</p> <p>This indicates the QoS parameter value requested by the MS to the network.</p> |

| Field | Description |
|--|--|
| Peak Throughput (Requested-QoS) | It is a QoS attribute that indicates configured, maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and MS. |
| Mean Throughput (Requested-QoS) | It is a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and the MS. This is the QoS parameter value requested by the MS to the network. |
| Delivery of Erroneous SDUs (Requested-QoS) | It is the QoS status regarding the delivery of erroneous Service Delivery Units (SDUs). For example it indicates whether or not the delivery of the erroneous SDUs is detected or not. This is the QoS parameter value requested by the MS to the network. |
| Traffic Class (Requested-QoS) | Category of traffic class as per the QoS requested by the MS. The traffic is broadly categorized as: - Conversational - Streaming - Background - Interactive This is the QoS parameter value requested by the MS to the network. |
| Max Sdu Size (Requested-QoS) | Maximum allowable size of Service Data Units (SDUs) in octets. This is the QoS parameter value requested by the MS to the network. |
| Max Bit Rate Uplink (Requested-QoS) | Maximum allowable traffic rate in kbps, for sending data from MS to the network. This is the QoS parameter value requested by the MS to the network. |
| Max Bit Rate Downlink (Requested-QoS) | Maximum allowable traffic rate in kbps for sending the data from network to MS. This is the QoS parameter value requested by the MS to the network. |
| Residual Bit Error rate (Requested-QoS) | Reliability based on residual Bit Error Rate (BER). Certain BER rate is associated with specific category of the traffic class such as conversational, streaming, and interactive or background. This is the QoS parameter value requested by the MS to the network. |
| Sdu Error rate (Requested-QoS) | Service Delivery Unit (SDU) error rate. This is the QoS parameter value requested by the MS to the network. |

| Field | Description |
|--|--|
| Traffic Handling Priority (Requested-QoS) | Priority or level of handling SDUs belonging to a specific context. This is the QoS parameter value requested by the MS to the network. |
| Transfer Delay (Requested-QoS) | Delay encountered in ms, while delivering about 95% of SDUs belonging to specific context. This is the QoS parameter value requested by the MS to the network. |
| Guaranteed Bit Rate Uplink (Requested-QoS) | Guaranteed number of bits transferred in the specified time frame, by the MS to the network. This is the QoS parameter value requested by the MS to the network. |
| Guaranteed Bit Rate Downlink (Requested-QoS) | Guaranteed number of bits transferred in the specified time frame, by the network to MS. This is the QoS parameter value requested by the MS to the network. |
| Reliability Class (Negotiated-QoS) | QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling as well as allocation or retention priority. Possible values are unchecked GTP, LLC, acked RLC and protected data. This is the negotiated value between MS and the network. |
| Delay Class (Negotiated-QoS) | QoS attribute associated with traffic flow, the delay class indicates network transient delay. This is the negotiated value between MS and the network. |
| Precedence Class (Negotiated-QoS) | QoS attribute that indicates the service precedence supported by the GPRS network by discarding packets, based on requested and negotiated precedence class. For example a precedence class can have Priority values as high, Normal and Low. This is the negotiated value between MS and the network. |
| Peak Throughput (Negotiated-QoS) | QoS attribute that indicates configured, maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and MS. This is the negotiated value between MS and the network. |
| Mean Throughput (Negotiated-QoS) | QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and the MS. This is the negotiated value between MS and the network. |
| Allocation/Retention Priority (Negotiated-QoS) | Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3. This is the negotiated value between MS and the network. |

| Field | Description |
|---|---|
| Delivery of Erroneous SDUs (Negotiated-QoS) | QoS status regarding the delivery of erroneous Service Delivery Units (SDUs). For example it indicates whether or not the delivery of the erroneous SDUs is detected or not. This is the negotiated value between MS and the network. |
| Traffic Class (Negotiated-QoS) | Category of traffic class as per the QoS requested by the MS. The traffic is broadly categorized as: <ul style="list-style-type: none"> - Conversational - Streaming - Background - Interactive This indicates the negotiated value between MS and the network. |
| Max Sdu Size (Negotiated-QoS) | Maximum allowable size of Service Data Units (SDUs) in octets. This is the negotiated value between MS and the network. |
| Max Bit Rate Uplink (Negotiated-QoS) | Maximum allowable traffic rate in kbps, for sending data from MS to the network. This is the negotiated value between MS and the network. |
| Max Bit Rate Downlink (Negotiated-QoS) | Maximum allowable traffic rate in kbps for sending the data from network to MS. This is the negotiated value between MS and the network. |
| Residual Bit Error rate (Negotiated-QoS) | Reliability based on residual Bit Error Rate (BER). Certain BER rate is associated with specific category of the traffic class such as conversational, streaming, and interactive or background. This is the negotiated value between MS and the network. |
| Sdu Error rate (Negotiated-QoS) | Service Delivery Unit (SDU) error rate. This is the negotiated value between MS and the network. |
| Traffic Handling Priority (Negotiated-QoS) | Priority or level of handling SDUs belonging to a specific context. This is the negotiated value between MS and the network. |
| Transfer Delay (Negotiated-QoS) | Delay encountered in ms, while delivering about 95% of SDUs belonging to specific context. This is the negotiated value between MS and the network. |
| Guaranteed Bit Rate Uplink (Negotiated-QoS) | Guaranteed number of bits transferred in the specified time frame, by the MS to the network. This is the negotiated value between MS and the network. |

| Field | Description |
|---|---|
| Guaranteed Bit Rate Downlink (Negotiated-QoS) | Guaranteed number of bits transferred in the specified time frame, by the network to MS. This is the negotiated value between MS and the network. |
| Downlink traffic-rate-limit | Specifies whether the traffic rate limit for the data traffic from network to MS is enabled or disabled. |
| Uplink traffic-rate-limit | Specifies whether the traffic rate limit for the data traffic from MS to network is enabled or disabled. |
| input pkts | Specifies total number of error free packets received by the MS from the network. |
| input bytes | Total number of error free bytes received by the MS from the network. |
| input bytes dropped | Total number of input bytes dropped by the MS while receiving them from the network. |
| input pkts dropped | Total number of packets dropped by the MS while receiving the packets from the network. |
| input pkts dropped due to lorc | Number of input packets dropped by the MS while sending them to the network, due to Loss of Radio Coverage (LORC). |
| input bytes dropped due to lorc | Number of input bytes dropped by the MS while receiving them from the network due to Loss of Radio Coverage (LORC). |
| in packet dropped suspended state | Total number of packets dropped by the MS, because the packets were in suspended state, while receiving the packets from the network. |
| in bytes dropped suspended state | Total number of bytes dropped by the MS, because the bytes were in suspended state, while receiving the bytes from the network. |
| output pkts | Total number of error free packets sent by the MS to the network. |
| output bytes | Total number of error free bytes sent by the MS to the network. |
| output bytes dropped | Total number of output bytes dropped by the MS while sending them to network. |
| output pkts dropped | Total number of packets dropped by the MS while sending the packets to the network. |
| output pkts dropped due to lorc | Total number of packets dropped by the MS while sending the packets to the network, due to loss of radio service. |
| pk rate from user(bps) | The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |

| Field | Description |
|------------------------------|---|
| pk rate to user(bps) | The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(bps) | The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(bps) | The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(bps) | The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(bps) | The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| pk rate from user(pps) | The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| pk rate to user(pps) | The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| ave rate from user(pps) | The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds. |
| ave rate to user(pps) | The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds. |
| sust rate from user(pps) | The mean data rate, in packets per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds. |
| sust rate to user(pps) | The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds. |
| SSAF | Indicates if the SSAF flag is set during the CSFB procedure. |
| EMM Combined UE Waiting Flag | Indicates if the EMM combined UE waiting flag is set during the CSFB procedure. |
| Subscription Type | Displays the configured subscription type as either "EPS" or "GPRS". |

show subscribers hnbgw-only all



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 582: show subscribers hnbgw-only all Command Output Descriptions

| Field | Description |
|----------------|---|
| vv | Displays service and session state information. This column provides a code consisting of two characters. |
| | From left-to-right, the first character represents the Network Type that the subscriber is using. The possible access types are: <ul style="list-style-type: none"> - H: HNB - P: PS Connection - C: CS Connection |
| | The second character represents the Call State . The possible call states are: <ul style="list-style-type: none"> - R: Registered - D: Deregistered - C: Connected - N: Disconnected |
| CALLID | Displays the subscriber's call identification (callid) number on HNB-GW in HNB access network. |
| HNB/UE Id | Displays the HNB or UE identifier on HNB-GW in HNB access network. |
| HNB IP Address | Displays the HNB IP address registered on HNB-GW service in HNB access network. |

show subscribers hnbgw-only full



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 583: show subscribers hnbgw-only full Command Output Descriptions

| Field | Description |
|---------------------|--|
| Username | The name of the subscribers accessing HNB-GW over IuH or IuCS or IuPS connection on HNB-GW service. |
| Access Type | Indicates the access type used by subscriber session over HNB access network. Possible access types are: <ul style="list-style-type: none"> - hnbgw-hnb (IuH connection between HNB and HNB-GW) - hnbgw-iu (IuCS or IuPS connection between HNB-GW and CN) |
| Network Type | Indicates the type of network used by subscriber session over HNB access network. Possible network types are: <ul style="list-style-type: none"> - IP - IPSec - Unknown |
| Access Tech | Indicates the access technology used by subscriber session over HNB access network. Possible access technologies are FEMTO UTRAN or Other/Unknown |
| callid | Indicates the subscriber's call identification number (callid) used for this session. |
| msid | Indicates the subscriber's Mobile Station identification (MS id) used for this session. |
| state | Indicates the state of the subscriber session over HNB access network. The possible session states are: <ul style="list-style-type: none"> - R: Registered - D: Deregistered - C: Connected - N: Disconnected |
| Service Name | Indicates the name of the HNB-GW service for which subscriber information is displayed. |
| HNB Ip Address | Indicates the primary IP address of the HNB in the session. In HNB-GW session this is the primary IP address of Femto CPE. |
| User Location (RAI) | Indicates the user location in Femto UTRAN network. This is the Routing Area Identifier (RAI) provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNBGW service belongs to and is configured under the PLMN-ID |

| Field | Description |
|-------------------------|---|
| Service Area Code | Identifies the Service Area (SA) code within a LA (Location Area) used during this HNB-GW session. |
| GlobalRNCId | Indicates the Global identifier used for Radio Network Controller used by this subscriber session in Femto UTRAN network. |
| IMSI | Indicates the IMSI number which is currently registered with HNB-GW service session instance. |
| Registration Type | Indicates the type of registration applies for specific subscriber session over HNB access network. Possible registration types are: <ul style="list-style-type: none"> • Normal: Indicates the normal subscriber session. in this type of session registration multiple Iu sessions and multiple Radio Access Bearers (RABs) are allowed. • Emergency: Indicates that current subscriber session is of Emergency type. In this type of session only on Iu session (CS or PS) with only one Radio Access Bearer (RAB) is allowed. |
| Context Id | Indicates the identity number of the context used by specific subscriber session over HNB-GW service instance. |
| SGSN Point Code | Indicates the SGSN address in SS7 point code where specific subscriber's IuPS session is attached and serve the PS session in Femto UTRAN access network. |
| Domain | Indicates the type of core network (CN) domain where specific subscriber's Iu (CS or PS) session is attached and served. Possible domains are: <ul style="list-style-type: none"> - Packet Switched (PS) Domain - Circuit Switched (CS) Domain |
| PS RABs | This group indicates the status and statistics of RABs used by specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Rab id | Indicates the identifier number of PS RAB used by specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| State | Indicates the state of PS RAB used by specific subscriber session over IuPS interface while connected to HNB-PS core network. Possible states are Established or Released. |
| GTP-U Tunnel towards CN | This group indicates the setup information of GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |

| Field | Description |
|--|--|
| Remote Addr | Indicates the IP address of SGSN used as remote peer node at the end of GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Remote TEID | Indicates the remote GTP-U tunnel end (SGSN side) identifier used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Local Addr | Indicates the IP address of HNB-GW used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Local TEID | Indicates the local GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| GTP-U Tunnel towards HNB | This group indicates the setup information of GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Remote Addr | Indicates the IP address of HNB used as remote peer node at the end of GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Remote TEID | Indicates the remote GTP-U tunnel end (HNB side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Local Addr | Indicates the IP address of HNB-GW used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Local TEID | Indicates the local GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Data Fwd GTP-U Tunnel towards SGSN/T-RNC | This group indicates the setup information of Data Forwarding GTP-U tunnel established between HNB-GW and SGSN or target RNC (T-RNC) for specific subscriber session over IuPS interface while connected to HNB-PS core network. |

| Field | Description |
|-----------------------------------|---|
| Remote Addr | Indicates the IP address of SGSN/target RNC used as remote peer node at the end of Data forwarding GTP-U tunnel established between HNB-GW and SGSN or target RNC for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Remote TEID | Indicates the remote Data Forwarding GTP-U tunnel end (SGSN or target RNC side) identifier used by GTP-U tunnel established between HNB-GW and SGSN or target RNC for specific subscriber session over IuPS interface while connected to HNB-PS core network. |
| Data Fwd GTP-U Tunnel towards HNB | This group indicates the setup information of Data Forwarding GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Local Addr | Indicates the IP address of HNB-GW used as local address by Data forwarding GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| Local TEID | Indicates the local Data Forwarding GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network. |
| GTPU | This group indicates the data transmission information for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Bytes Rx | Indicates the total number of bytes received by HNB-GW in downlink direction (from CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Bytes Tx | Indicates the total number of bytes transmitted by HNB-GW in downlink direction (towards HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Packets Rx | Indicates the total number of packets received by HNB-GW in downlink direction (from CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Packets Tx | Indicates the total number of packets transmitted by HNB-GW in downlink direction (towards HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Uplink Bytes Rx | Indicates the total number of bytes received by HNB-GW in uplink direction (from HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |

| Field | Description |
|-------------------------------|---|
| GTPU Uplink Bytes Tx | Indicates the total number of bytes transmitted by HNB-GW in uplink direction (towards CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Uplink Packets Rx | Indicates the total number of packets received by HNB-GW in uplink direction (from HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Uplink Packets Tx | Indicates the total number of packets transmitted by HNB-GW in uplink direction (towards CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Bytes dropped | Indicates the total number of bytes dropped by HNB-GW in downlink direction (from CN to HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Uplink Bytes dropped | Indicates the total number of bytes dropped by HNB-GW in uplink direction (from HNB to CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Downlink Packets dropped | Indicates the total number of packets dropped by HNB-GW in downlink direction (from CN to HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Uplink Packets dropped | Indicates the total number of packets dropped by HNB-GW in uplink direction (from HNB to CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| Drop Cause | This group indicates the reasons for packet/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| RAB not in CONNECTED state | Indicates the total number of packets/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network as RAB was not connected when packets/bytes received by HNB-GW. |
| Miscellaneous | Indicates the total number of packets/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network due to Emergency type of session or other unknown cause. |
| GTPU Fwd Packets Rx | Indicates the total number GTP-U Forward packets received by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| GTPU Fwd Packets Tx | Indicates the total number GTP-U Forward packets transmitted by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |

| Field | Description |
|----------------------------|---|
| Drop Cause | This group indicates the reasons for Data Forward GTP-U packet dropped by HNB-GW over Data forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network. |
| RAB not in CONNECTED state | Indicates the total number of GTPU Forward packets dropped by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network as RAB was not connected when Data forward packets received by HNB-GW. |
| Miscellaneous | Indicates the total number of GTPU Forward packets dropped by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network due to Emergency type of session or other unknown cause. |
| MSC Point Code | Indicates the MSC address in SS7 point code where specific subscriber's IuCS session is attached and serve the CS session in Femto UTRAN access network. |
| CS RABs | This group indicates the status and statistics of RABs used by specific subscriber session over IuCS interface while connected to HNB-CS core network. |
| Rab id | Indicates the identifier number of CS RAB used by specific subscriber session over IuCS interface while connected to HNB-CS core network. |
| State | Indicates the state of CS RAB used by specific subscriber session over IuCS interface while connected to HNB-CS core network. Possible states are: Established or Released. |
| IuH interface | This group displays the session setup information of IuH interface between HNB and HNB-GW used by specific subscriber session while connected to HNB-CS core network. |
| Local RTP Addr | Indicates the local IP address allocated to HNB-GW by RTP IP pool and used by HNB-GW for establishing IuH session with HNB. This address is used for RTP session in specific subscriber session while connected to HNB-CS core network. |
| Local RTP port | Indicates the local RTP port number used by HNB-GW for establishing IuH session with HNB. This port is used by RTP session in specific subscriber session while connected to HNB-CS core network. |
| Remote RTP Addr | Indicates the remote IP address allocated to HNB by RTP IP pool and used by HNB-GW for establishing IuH session with HNB. This address is used for RTP session in specific subscriber session while connected to HNB-CS core network. |

| Field | Description |
|------------------------------|--|
| Remote RTP port | Indicates the local RTP port number used by HNB for establishing IuH session with HNB-GW. This port is used by RTP session in specific subscriber session while connected to HNB-CS core network. |
| RTP | This group indicates the RTP data packet transmission information for specific subscriber session connected to HNB-CS core network. |
| RTP Downlink Packets Rx | Indicates the total number of RTP packets received by HNB-GW in downlink direction (from CN) over IuCS interface for specific subscriber session connected to HNB-CS core network. |
| RTP Uplink Packets Tx | Indicates the total number of RTP packets transmitted by HNB-GW in uplink direction (to CN) over IuCS interface for specific subscriber session connected to HNB-CS core network. |
| RTP Downlink Packets dropped | Indicates the total number of RTP data packets dropped by HNB-GW in downlink direction (from CN to HNB) over IuH interface for specific subscriber session connected to HNB-CS core network. |
| Drop Cause | This group indicates the reasons for RTP data packets dropped by HNB-GW in downlink/uplink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network. |
| RAB not in CONNECTED state | Indicates the total number of packets dropped by HNB-GW in downlink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network as RAB was not connected when RTP packets received by HNB-GW. |
| Miscellaneous | Indicates the total number of packets dropped by HNB-GW in downlink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network due to Emergency type of session or other unknown cause. |
| IU interface | This group indicates the data packet transmission information over IuCS interface for specific subscriber session connected to HNB-CS core network. |
| Transport | Indicates the type of transport used in HNB-GW service instance over IuCS interface for specific subscriber session connected to HNB-CS core network. Possible type of transport are IP or ATM. |
| AAL2 Node | This group displays the information related to ATM adaptation layer 2 (AAL2) channel used for specific subscriber session connected to HNB-CS core network. |
| AAL2 Path | Indicates the identity number of AAL2 path used for ATM transport in AAL2 node which is applicable for specific subscriber session connected to HNB-CS core network. |

| Field | Description |
|-------------------------------|---|
| AESA | Indicates the ATM End System Address (AESA) used for ATM transport in AAL2 node which is applicable for specific subscriber session connected to HNB-CS core network. |
| AAL2 | This group indicates the AAL2 packet transmission information over ATM channel for specific subscriber session connected to HNB-CS core network. |
| AAL2 Downlink Packets Rx | Indicates the total number of AAL2 packets received by HNB-GW in downlink direction (from CN) over ATM channel for specific subscriber session connected to HNB-CS core network. |
| AAL2 Uplink Packets Tx | Indicates the total number of AAL2 packets transmitted by HNB-GW in uplink direction (to CN) over ATM channel for specific subscriber session connected to HNB-CS core network. |
| AAL2 Downlink Packets dropped | Indicates the total number of AAL2 packets dropped by HNB-GW in downlink direction (from CN to HNB) over ATM channel for specific subscriber session connected to HNB-CS core network. |
| Drop Cause | This group indicates the reasons for AAL2 packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network. |
| RAB not in CONNECTED state | Indicates the total number of packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network as RAB was not connected when ATM packets received by HNB-GW. |
| Miscellaneous | Indicates the total number of packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network due to Emergency type of session or other unknown cause. |

show subscribers hnbgw-service



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 584: show subscribers hnbgw-service svc_name Command Output Descriptions

| Field | Description |
|----------------|---|
| vv | <p>Displays service and session state information. This column provides a code consisting of two characters.</p> <p>From left-to-right, the first character represents the Network Type that the subscriber is using. The possible access types are:</p> <ul style="list-style-type: none"> - H: HNB - P: PS Connection - C: CS Connection <p>The second character represents the Call State. The possible call states are:</p> <ul style="list-style-type: none"> - R: Registered - D: Deregistered - C: Connected - N: Disconnected |
| CALLID | Displays the subscriber's call identification (callid) number on HNB-GW in HNB access network. |
| HNB/UE Id | Displays the HNB or UE identifier on HNB-GW in HNB access network. |
| HNB IP Address | Displays the HNB IP address registered on HNB-GW service in HNB access network. |

show subscribers mme-only full

Table 585: show subscribers mme-only full Command Output Descriptions

| Field | Description |
|--------------|---|
| Username | The subscriber name connected for EPS session. |
| Status | Indicates the status of EPS subscriber session. Possible status are Online/Active or Offline/Dormant/Idle. |
| Access Type | Indicates the type of access applicable for this subscriber. For MME subscribers it should be s1-mme . |
| Network Type | Indicates the type of network service used for the subscriber session. See |
| Access Tech | Indicates the accessing technology. For MME session it is eUTRAN . |

| Field | Description |
|------------------------|---|
| Access Network Peer ID | Indicates the identifier of the peer in access network. |
| Peer Id | Indicates the identifier of the peer MME in home network. |
| callid | The MME subscriber's call identification number (callid). |
| msid | The MME subscriber's mobile station identification (MSID), and whether the subscriber is unauthenticated (such as during emergency attach). |
| imei | The MME subscriber's International Mobile Equipment Identity (IMEI). |
| guti | This group indicates the Globally Unique Temporary Identifier (GUTI) constructed with following identifiers: <ul style="list-style-type: none"> - PLMN (MMC and MNC) - MME Group ID (MMEGI) - MME Code (MMEC) - MME TMSI (M-TMSI) |
| plmn-id | Indicates the public mobile land network (PLMN) of which MME belongs. PLMN is constructed from MMC and MNC. |
| mme-group-id | Indicates the MME group Id of which MME belongs to. |
| mme-code | Indicates the MME code of which MME belongs to. |
| m-tmsi | Indicates the MME TMSI which is used to identify this subscriber in MME service. |
| MSISDN | Indicates the Mobile Subscriber Integrated Services Digital Network Number (MSISDN) of the subscriber connected to an MME service. |
| Card/Cpu | The card and CPU ID on which this MME subscriber session is running. |
| Sessmgr Instance | The session manager instances running for this subscriber. |
| state | The state of MME subscriber session. The possible values are: <ul style="list-style-type: none"> - Connected - Connecting - Disconnecting - Unknown |
| Peer address | IP address of peer MME system in network. |
| connect time | Indicate the time in DAYMMMDD HH:MM:SS YYYY format when call connected to MME service. |

| Field | Description |
|---------------------|--|
| call duration | Total time lapsed after call connected for this subscriber with this MME service. |
| idle time | The time period that the subscriber session has been idle, either in an active or dormant state. |
| ip address | Indicates the primary IP address of the subscriber interface in the session. |
| mme-service name | Indicates the name of MME service which is serving this subscriber for MME calls. |
| mme-service context | Indicates the name of system context in which particular MME service which is serving this subscriber for MME calls is configured. |
| source context | The name of the source context in which the S1-MME interface is configured for this MME service |
| destination context | The name of the destination context in which the S5/S8 interface is configured for this MME service. |
| Imsimgr Instance | The IMSI Manager instance holding the mapping entry for a subscriber session is displayed as part of the subscriber session information. |
| DCNR Devices | Indicates the number of DCNR devices attached to the MME. |

show subscribers summary pgw only

Table 586: show subscribers summary pgw only Command Output Descriptions

| Field | Description |
|--------|--|
| EUTRAN | The total number of EUTRAN PDNs by RAT-Type. |
| UTRAN | The total number of UTRANs PDNs by RAT-Type. |
| GERAN | The total number of GERANs PDNs by RAT-Type. |
| WLAN | The total number of WLANs PDNs by RAT-Type. |
| Other | The total number of Others PDNs by RAT-Type. |

show subscribers pdif-service

Table 587: show subscribers pdif-service Command Output Descriptions

| Field | Description |
|-----------|--|
| VVVVVV | Displays service and session state information. This column provides a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. The possible network types are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |
| | The fifth character represents the Link Status of the session. The possible idle states are: <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| USERNAME | Displays the subscriber's username. |
| IP | Displays the IP address assigned to the subscriber. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers pgw-only full all

Table 588: show subscribers pgw-only full all Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Access Type | Indicates the session type for this subscriber. See Common Attributes in this chapter. |
| Network Type | Indicates the network service used for the subscriber session. See Common Attributes in this chapter. |
| Access Tech | Indicates the accessing technology. See Common Attributes in this chapter. |
| pgw-service-name | The name of the P-GW service configured and running on the system. |
| Callid | The subscriber's call identification number (callid). |
| IMSI | The International Mobile Subscriber Identification (IMSI) which is the 3-digit MCC (Mobile Country Code), 2 or 3-digit MNC (Mobile Network Code), and the MSIN (Mobile Subscriber Identification Number). |
| MSISDN | The Mobile Station International ISDN Number (MSISDN) of the subscriber node. |
| Interface Type | Indicates the type of interface. |
| Low Access Priority | Displays whether or not LAPI (Low Access Priority Indicator) PDN sessions are rejected due to overload. |
| TWAN Mode | Displays TWAN mode value associated with a P-GW subscriber. Possible TWAN modes are: <ul style="list-style-type: none"> • Multi-connection Mode • Single-connection Mode • Transparent Single Connection Mode |
| Emergency Bearer Type | The Emergency Bearer Type of the subscriber session. |
| S6b Returned Virtual APN | Displays the S6b returned full virtual APN name, if the Virtual APN Truncation feature is enabled. Otherwise, it displays "N/A". For more information on this feature, see the <i>Rf Interface Support</i> chapter in the administration guide of the product you are deploying. |
| Restoration priority level | Displays the value of restoration priority associated with a P-GW subscriber. |

| Field | Description |
|--|--|
| S6b Auth Status | S6b Auth Status shown as By-passed if S6b auth failed and in the assumed positive state. |
| Bearer State | |
| in packet dropped sgw restoration state | Uplink packets dropped during S-GW Restoration. |
| in bytes dropped sgw restoration state | Uplink bytes dropped during S-GW Restoration. |
| out packet dropped sgw restoration state | Downlink packets dropped during S-GW Restoration. |
| out bytes dropped sgw restoration state | Downlink bytes dropped during S-GW Restoration. |
| Paging Policy Differentiation | Displays whether or not the PPD feature is enabled. |
| multiple-pra | Multiple Presence Reporting Area Information Reporting. |

show subscribers pgw-only summary

Table 589: show subscribers pgw-only summary Command Output Descriptions

| Field | Description |
|---------------------------|--|
| Total S6b Assume Positive | Total number of subscribers in the assumed positive state. |

show subscribers policy

Table 590: show subscribers policy Command Output Descriptions

| Field | Description |
|-----------------------|--|
| PCC rule stats | |
| Install requests | Total number of Policy Control and Charging (PCC) rule install requests. |
| Remove requests | Total number of PCC rule removal requests. |
| Installed uplink | Total number of PCC rules installed for uplink direction. |
| Installed downlink | Total number of PCC rules installed for downlink direction. |
| Activate requests | Total number of PCC rule activate requests. |
| Deactivate requests | Total number of PCC rule deactivate requests. |
| Activate group | Total number of policy groups activated. |

| Field | Description |
|-------------------------------|---|
| Deactivate group | Total number of policy groups deactivated. |
| Active Rules | Total number of active rules. |
| Temp Inactive Rules | Total number of temporary inactive rules. |
| PCC rule failure stats | |
| Rule install failure | Total number of PCC rule install failures. |
| Rule remove failure | Total number of PCC rule removal failures. |
| Activation failure | Total number of PCC rule activation failures. |
| Deactivation failure | Total number of PCC rule deactivation failures. |
| Group activation failure | Total number of policy group activation failures. |
| Group deactivation failure | Total number of policy group deactivation failures. |
| Event stats | |
| Session up | Total number of subscriber sessions up. |
| Session down | Total number of subscriber sessions down. |
| Handoff | Total number of handoffs occurred. |
| RAT change | Total number of Radio Access Type (RAT) changes occurred. |
| User location change | Total number of user location changes occurred. |
| Default Bearer QoS change | Total number of default bearer QoS changes occurred. |
| Flow create | Total number of flows created. |
| Flow delete | Total number of flows deleted. |
| Bearer loss | Total number of bearer loss. |
| Bearer recovery | Total number of bearer recoveries after loss of bearer. |
| Update tft | Total number of Traffic Flow Template (TFT) updates. |
| Update qos | Total number of QoS updates. |
| UE Time Zone change | Total number of UE time zone changes occurred. |
| Event failure stats | |
| Session up | Total number of session up failures. |
| Session down | Total number of session down failures. |
| Handoff | Total number of handoff failures. |

show subscribers rulename <rule_name>

| Field | Description |
|---------------------------|---|
| RAT change | Total number of RAT change failures. |
| User location change | Total number of user location change failures. |
| Default Bearer QoS change | Total number of default bearer QoS change failures. |
| Flow create | Total number of flow creation failures. |
| Flow delete | Total number of flow deletion failures. |
| Bearer loss | Total number of bearer loss failures. |
| Bearer recovery | Total number of bearer recovery failures. |
| Update tft | Total number of TFT update failures. |
| Update qos | Total number of QoS update failures. |
| UE Time Zone change | Total number of UE time zone change failures. |
| Auth stats | |
| Auth request | Total number of authorization requests sent. |
| Auth failure | Total number of authorization request failures. |
| Reauth request | Total number of re-authorization requests sent. |
| Reauth request failure | Total number of re-authorization request failures. |
| Terminate request | Total number of terminate requests sent. |
| Terminate request failure | Total number of terminate request failures. |

show subscribers rulename <rule_name>

Table 591: show subscribers rulename <rule_name> Command Output Descriptions

| Field | Description |
|-------------|---|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |

| Field | Description |
|-------------------|--|
| Access CSCF State | The access state of the session. The possible states are: - A : Attached - N : Not Attached - . (period): Not Applicable |
| Link Status | Indicates the status of the flow. The possible states are: - A : Online/Active (airlink connected) - D : Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. From left-to-right, the first character represents the Access Type that the subscriber is using. The second character represents the Access Technology . The third character represents the Call State . The fourth character represents the Access CSCF Status of the session. The fifth character represents the Link Status of the session. The sixth character represents the session Network Type . |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers without-dynamic-rule

Table 592: show subscribers without-dynamic-rule Command Output Descriptions

| Field | Description |
|-------------------|---|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |
| Access CSCF State | The access state of the session. The possible states are: <ul style="list-style-type: none"> - A: Attached - N: Not Attached - . (period): Not Applicable |
| Link Status | Indicates the status of the flow. The possible states are: <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. <ul style="list-style-type: none"> From left-to-right, the first character represents the Access Type that the subscriber is using. The second character represents the Access Technology. The third character represents the Call State. The fourth character represents the Access CSCF Status of the session. The fifth character represents the Link Status of the session. The sixth character represents the session Network Type. |
| CALLID | The subscriber's call identification (callid) number. |
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |

| Field | Description |
|-----------|--|
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers without-override-control

Table 593: show subscribers without-override-control Command Output Descriptions

| Field | Description |
|-------------------|--|
| Access Type | Indicates the type of access for this subscriber. See, Access Types, on page 2300 . |
| Access Tech | Represents the Access Technology . See, Access Technologies, on page 2302 . |
| Call State | The call state. See, Call States, on page 2302 . |
| Access CSCF State | The access state of the session. The possible states are: - A : Attached - N : Not Attached - . (period): Not Applicable |
| Link Status | Indicates the status of the flow. The possible states are: - A : Online/Active (airlink connected) - D : Dormant (airlink not connected) |
| Network Type | Indicates the session Network Type. See, Network Types, on page 2303 . |
| vvvvvv | Displays service and session state information. This column displays a code consisting of six characters. From left-to-right, the first character represents the Access Type that the subscriber is using. The second character represents the Access Technology . The third character represents the Call State . The fourth character represents the Access CSCF Status of the session. The fifth character represents the Link Status of the session. The sixth character represents the session Network Type . |
| CALLID | The subscriber's call identification (callid) number. |

| Field | Description |
|-----------|--|
| MSID | The subscriber's mobile station identification (MSID) number. |
| USERNAME | The subscriber's user name. |
| IP | The IP address assigned to the subscriber. |
| TIME-IDLE | The amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers sgsn-only full

Table 594: show subscribers sgsn-only full Command Output Descriptions

| Field | Description |
|---|--|
| Source context | Specifies the name of a configured source context from which the subscriber initiates a session. |
| Destination context | Specifies the name of a configured destination context through which the subscriber is provided access to the packet data network. |
| Accounting context | Specifies the name of a configured accounting context through which the subscriber is provided accounting of data session. |
| Subscriber Plmn Type | Indicates the subscriber type of Public Land Mobile Network area. Possible values are: <ul style="list-style-type: none"> - H: Home networks - F: Foreign networks - U: Unknown networks |
| Charging Characteristics | Displays the Charging characteristics. Hot Billing, Flat rate Billing, Prepaid Billing and Normal Billing |
| Charging Characteristics Selection Mode | Displays the selection mode of the Charging characteristics. |
| MNRG Flag | The MNRG (Mobile Not Reachable for GPRS) flag indicates whether activity from the MS will be reported to the HLR or not. Possible values are True or False. |
| PPF | The PPF (Page Proceed Flag) indicates whether paging for PS and CS services can be initiated. Possible values are True or False. |
| NGAF | The NGAF (Non-GRPS Alert Flag) indicates whether activity from the MS will be reported to the MCSC/VLR. Possible values are True or False. |

| Field | Description |
|----------------------------|---|
| VLR-Reliable | Set to 'false' when the SGSN has received a reset indication from the VLR. The SGSN may request the MS, upon reception of the next routing area update (either periodic routing area update or combined routing and location area update) procedure, to re-attach to non-GPRS services if the MS is still IMSI attached to non-GPRS services. Alternatively, the SGSN may upon reception of a combined routing and location area update request or a periodic routing area update from a MS that is still attached for non-GPRS service, perform immediately the location update for non-GPRS services procedure. |
| VLR-Association | States associated to the Gs interface in the VLR. Possible states are: <ul style="list-style-type: none"> - Gs-NULL - LA-UPDATE PRESENT - Gs-ASSOCIATED |
| NRI Assigned | The Network Resource Identifier (NRI) is used either when Iu-flex or Gb-flex is used or when MOCN configuration is used for network sharing. NRI is a 1-10 bit length value that is a part of PTMSI. This de-multiplexes which SGSN handles the subscriber at the RNC or BSS. The NRI that was chosen for this subscriber is shown and this is useful to know when this SGSN is configured with more than one NRI. |
| Network Sharing Capability | Specifies the MS support for network shearing. <p>When network sharing feature is enabled, it is possible that the MS is a supporting MS or a non-supporting MS. The three possible values the MS Network Sharing Support feature can hold are:</p> <ul style="list-style-type: none"> - Not Applicable (Network Sharing is not enabled) - Not Supported (Network Sharing is enabled; MS does not support this feature.) - Supported (Network Sharing is enabled; MS supports this feature.) |
| Access Type | Access type that the subscriber is using. Following are some examples of access type, pdsn- simple-ip, ha-mobile-ip or ggsn-pdp-type-ipv4. |
| Access Tech | Access technology used by the subscriber. Following are some example s of access technology WCDMA, UTRAN, FEMTO UTRAN. |
| Callid | Displays subscriber's call identification number. |
| State | The call state. Possible states are C : connected, c : Connecting, d : Disconnecting. |

| Field | Description |
|---------------------|--|
| RFSP Id in Use | Displays the value of the RFSD Id. used. |
| Connect Time | Time of connection in Day Month d hh:mm:ss yyyy format. |
| Network Type | Type of network. Following are some of the examples of network type IP, Mobile IP, L2TP. |
| Idle Time | Time period in hh:mm:ss format, for this duration the subscriber session has been idle, either in active or in dormant state. |
| User Location (RAI) | Location of the user in the type of network. This is the Routing Area Identifier (RAI) provided during the registration with the GW service. The RAI signifies the routing area belonging to the GW service. |
| Serving PLMN | Identification of serving Public Land Mobile Network (PLMN). |
| Global RNC-Id | Displays information related to Global Radio Network Controller (RNC) settings used by CS core network for a GW service on a chassis. It is configured under PLMN Id. |
| VLR Number | Total number of VLRs associated with this application. |
| ISR-Activated | S4-SGSN only: Indicates if the Idle-Mode Signaling Reduction (ISR) feature is enabled (True) or disabled (False) on the SGSN. |
| MME Ctrl Teid | S4-SGSN only: If the ISR-Activated field reads True , this field provides the MME Control Tunnel Endpoint Identifier (Teid). The Ctrl TEID is the specific S3 tunnel on the MME being used for this ISR-activated subscriber. |
| MME IP Address | S4-SGSN only: If the ISR-Activated field reads True , this field provides the IP address of the MME associated with this ISR-activated subscriber. |
| GEA/1 | Total number of currently attached subscribers that are affecting MS network capability by using GPRS Encryption Algorithm (GEA)/1 encryption. |
| GEA/2 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/2 encryption. |
| GEA/3 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/3 encryption. |
| GEA/4 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/4 encryption. |
| GEA/5 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/5 encryption. |
| GEA/6 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/6 encryption. |

| Field | Description |
|---|--|
| GEA/7 | Total number of currently attached subscribers that are affecting MS network capability by using GEA/7 encryption. |
| LCS VA Capability | Specifies availability of Location Service (LCS) Value Added (VA) capability. |
| Split PG Cycle Code | Value of Split PG Cycle parameter, for the Discontinuous Reception (DRX). |
| SPLIT on CCCH | Availability of split on CCCH parameter for Discontinuous Reception (DRX). |
| APN | Access Point Name associated with the user name or subscriber. |
| NSAPI | subscriber's Network Service Access Point Identifier (NSAPI). |
| Context Initiated By | Session context initiator for example an MS. |
| Direct Tunnel | Specifies whether a direct tunnel between RAN and GGSN is established, not established or torn down by the SGSN. |
| Fast Path | Specifies whether the fast path is established so that SGSN can perform other signaling procedures and higher services or such fast path is not established. |
| Charging Characteristics | Associated charging characteristics profile for example hot or normal or pre-paid or flat billing. |
| Charging Characteristics Selection Mode | Selection mode of associated charging characteristics for example APN. |
| Charging Id | Contains a unique identifier that can be used for correlating charging records and events. |
| APN Selection Mode | Type of associated APN selection method. For example an APN selection mode can be chosen by SGSN, sent by MS or subscribed. |
| Bearer Control Mode | BCM mode is applicable to all PDP contexts within the activated PDP Address/APN pair and is stored common to all PDPs of a bundle. All PDPs in the bundle will display the same information. This parameter represents the latest Bearer Control Mode (BCM) information received, by an SGSN in a UMTS network from a GGSN, in Create PDP Context Response or Update PDP Context Request/Response messages. Value for this field is either "MS only" or "MS/NW" (also known as mixed mode) in accordance with section 7.7.83 of 3GPP TS 29.060 R9. |
| EUTRAN Service Handover | Indicates if the system is configured to include the E-UTRAN Service Handover Information Element (IE) in RAB Assignment Request and Relocation Request RANAP messages. |

| Field | Description |
|-----------------------------------|--|
| Requested and Negotiated QoS | <p>A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as:</p> <ul style="list-style-type: none"> - Reliability class - Delay class - Traffic class - Max sdu size - Max bit rate uplink - Max bit rate downlink - Residual bit error rate - Sdu error rate - Traffic handling priority - Transfer delay - Guaranteed bit rate uplink - Guaranteed bit rate downlink - Precedence class - Peak throughput - Mean throughput <p>Using these parameters an MS requests the network with specific values for the QoS profile parameters and the network provides the negotiated values of the profile parameters. There can be a difference between the values of the QoS parameters requested by the Mobile Station (MS), and those negotiated with the network.</p> |
| Reliability Class (Requested QoS) | It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling priority as well as allocation and retention priority. |
| Delay Class (Requested QoS) | It is a QoS attribute associated with traffic flow, the delay class indicates network transient as well as transfer delay. |
| Traffic Class (Requested QoS) | It is a QoS attribute indicating various categories of traffic. For example a traffic class can be, Conversational, Streaming, Background, Interactive 1, Interactive 2 or Interactive 3. |
| Max sdu Size (Requested QoS) | It is a QoS attribute that indicates maximum allowable size of Service Data Units (SDUs). |

| Field | Description |
|--|--|
| Max Bit Rate Uplink (Requested QoS) | It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from an MS to network. This is a requested QoS parameter indicating the upper limits requested by the subscriber or the default values provided as per the QoS profile. |
| Max Bit Rate Downlink (Requested QoS) | It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from the network to an MS. |
| Residual Bit Error Rate (Requested QoS) | It is a QoS attribute indicating reliability based on residual Bit Error Rate (BER). For specific traffic class such as conversational, streaming, interactive or background certain range of residual BER is required. |
| Sdu Error Rate (Requested QoS) | It is a QoS attribute indicating reliability based on Service Delivery Unit (SDU) error rate. For specific traffic class such as conversational, steaming, interactive or background certain range of Sdu Error Rate is required. |
| Traffic Handling Priority (Requested QoS) | It is a QoS attribute indicating the importance or priority of handling SDUs belonging to a specific PDP context as compared to any other PDP context. |
| Transfer Delay (Requested QoS) | It is a QoS attribute. It indicates the delay encountered in ms while delivering about 95% SDUs in the life time of a given bearer service. |
| Guaranteed Bit Rate Uplink (Requested QoS) | It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the MS to the SGSN in a specific time frame divided by the duration. |
| Guaranteed Bit Rate Downlink (Requested QoS) | It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the SGSN to the MS in a specific time frame, divided by the duration. |
| Precedence Class (Requested QoS) | It is a QoS attribute that indicates the service precedence supported by the SGSN by discarding packets based on the basis of requested and negotiated precedence between MS and UTRN. For example a precedence class can have values such as high, normal and low. |
| Peak Throughput (Requested QoS) | It is a QoS attribute that indicates configured maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS. |
| Mean Throughput (Requested QoS) | It's a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS. |

| Field | Description |
|---|---|
| Reliability Class (Negotiated QoS) | It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling priority as well as allocation and retention priority. |
| Delay Class (Negotiated QoS) | It is a QoS attribute associated with traffic flow, the delay class indicates network transient as well as transfer delay. |
| Traffic Class (Negotiated QoS) | It is a QoS attribute indicating various categories of traffic. For example a traffic class can be, Conversational, Streaming, Background, Interactive 1, Interactive 2 or Interactive 3. |
| Max sdu Size (Negotiated QoS) | It is a QoS attribute that indicates maximum allowable size of Service Data Units (SDUs). |
| Max Bit Rate Uplink(Negotiated QoS) | It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from an MS to network. |
| Max Bit Rate Downlink (Negotiated QoS) | It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from the network to an MS. |
| Residual Bit Error Rate (Negotiated QoS) | It is a QoS attribute indicating reliability based on residual Bit Error Rate (BER). For specific traffic class such as conversational, streaming, interactive or background certain range of residual BER is required. |
| Sdu Error Rate (Negotiated QoS) | It is a QoS attribute indicating reliability based on Service Delivery Unit (SDU) error rate. For specific traffic class such as conversational, steaming, interactive or background certain range of Sdu Error Rate is required. |
| Traffic Handling Priority (Negotiated QoS) | It is a QoS attribute indicating the importance or priority of handling SDUs belonging to a specific PDP context as compared to any other PDP context. |
| Transfer Delay (Negotiated QoS) | It is a QoS attribute. It indicates the delay encountered in ms while delivering about 95% SDUs in the life time of a given bearer service. |
| Guaranteed Bit Rate Uplink (Negotiated QoS) | It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the MS to the SGSN in a specific time frame divided by the duration. |
| Guaranteed Bit Rate Downlink (Negotiated QoS) | It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the SGSN to the MS in a specific time frame, divided by the duration. |
| Precedence Class (Negotiated QoS) | It is a QoS attribute that indicates the service precedence supported by the SGSN by discarding packets based on the basis of requested and negotiated precedence between MS and UTRN. For example a precedence class can have values such as high, normal and low. |

| Field | Description |
|------------------------------------|---|
| Peak Throughput (Negotiated QoS) | It is a QoS attribute that indicates configured maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS. |
| Mean Throughput (Negotiated QoS) | It's a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS. |
| Downlink traffic-rate-limit | The limit or maximum allowable value for rate of traffic from UTRAN to the MS. This limit can be enabled or disabled. |
| Uplink traffic-rate-limit | The limit or maximum allowable value for the rate of traffic from MS to UTRAN. This limit can be enabled or disabled. |
| Input Packets | Number of packets received for example management packets or pass packets. |
| Input Bytes | Number of bytes received. |
| Input Packets Dropped | Number of packets that were dropped while receiving data for this subscriber session. |
| Input Bytes Dropped | Number of bytes dropped while receiving data for this subscriber session. |
| Input Packets Dropped due to LORC | Number of packets that were dropped while receiving that data due to Loss Of Radio Coverage (LORC). |
| Input Bytes Dropped due to LORC | Number of bytes that were dropped while receiving that data due to Loss Of Radio Coverage (LORC). |
| Output Packets Dropped | Number of packets that were dropped while transmitting data for this subscriber session. It includes packets blocked by Access Control Lists (ACLs). |
| Output Bytes Dropped | Number of bytes that were dropped while transmitting data for this subscriber session. |
| Output Packets Dropped due to LORC | Number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber. This is applicable when SGSN notifies update PDP contexts for QoS charge. With GTP-C extension for Loss Of Radio Coverage (LORC) and GGSN is enabled for overcharging protection for subscriber due to LORC. |
| Pk Rate From User (bps) | Peak or maximum data rate, in bits per second for the data that is sent by the subscriber to the network during last sampling period. The sampling period is 30 seconds. |

| Field | Description |
|---|--|
| Pk Rate to User (bps) | Peak or maximum data rate, in bits per second for the data that is received by the subscriber from the network during last sampling period. The sampling period is 30 seconds. |
| Sust Rate From User (bps) | Sustainable rate of packet transmission by the subscriber to the network, in bits per seconds. The sampling period is 30 seconds. |
| Sust Rate to User (bps) | Sustainable speed or rate of packet reception by the subscriber from the network, in bits per seconds. The sampling period is 30 seconds. |
| Ave Rate From User (bps) | Mean or average data rate, in bits per second for the data that is sent from the subscriber to the network for last three sampling periods. The sampling period is 30 seconds. |
| Ave Rate to User (bps) | Mean or average data rate, in bit per second for the data that is received by the subscriber from the network for last three sampling periods. The sampling period is 30 seconds. |
| Current PTMSI | Current value of Packet Temporary Mobile Subscriber Identifier (P – TMSI), an identifier allocated to UE by SGSN. |
| Current PTMSI Acked by MS | Specifies whether the current P-TMSI is acknowledged by the mobile station. |
| Any Previous PTMSI | Specifies presence or absence of any previous P-TMSI. |
| MNRG Flag | Current status of Mobile Not Reachable for GPRS (MNRG) flag. This flag indicates whether the MS activates are being reported to HLR or not. Possible values for this flag are true or false. |
| Subscriber offload status | Indicates the subscriber offload status. |
| PDP Context Id (PDP Subscription) | Identifies the PDP context for PDP subscription data. |
| APN (PDP Subscription) | Identifies the Access Point Name (APN) associated with this PDP subscription. |
| PDP Type (PDP Subscription) | Category of PDP context. For example it can be IPv4, IPv6 or PPP. |
| PDP Address Type (PDP Subscription) | Category or type of PDP address allocation. For example the address type can be static or dynamic. |
| Ext PDP Address Type (PDP Subscription) | Category or type of address allocation for external PDP address. For example it can be static or dynamic. |
| Charging Characteristics (PDP Subscription) | Category of charging characteristics associated with this PDP subscription. For example it can be normal billing or hot billing. |
| VPLMN Address Allowed (PDP Subscription) | Specifies whether the address of Visited Public Land Mobile Network is allowed or not allowed. |

| Field | Description |
|--|---|
| Reliability Class (PDP Subscription) | Reliability class associated with the PDP subscription. It considers reliability attributes such as delivery order, traffic handling priority, as well as allocation and retention priority. For example reliability class for PDP subscription can be unacknowledged GTP, LLC, acknowledged RLC or protected data. |
| Delay Class (PDP Subscription) | Defined category of network transient delay for the PDP subscription data. For example class 4. |
| Precedence Class (PDP Subscription) | Service precedence delay supported by SGSN by discarding or allowing packets based on the precedence class for the PDP subscription. For example the precedence class for PDP subscription can be high priority. |
| Peak Throughput (PDP Subscription) | Configured maximum allowed throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping. |
| Mean Throughput (PDP Subscription) | Configured mean throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping. |
| Allocation/Retention Priority (PDP Subscription) | Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3. |
| Delivery of Erroneous SDUs (PDP Subscription) | Status of the delivery of erroneous Service Delivery Units (SDUs) for the PDP subscription. For example it indicates whether the delivery of erroneous SDU's is detected or not. |
| Traffic Class (PDP Subscription) | Category of traffic associated with this PDP subscription. Traffic is broadly categorized as Conversational, streaming, Background and Interactive. |
| Max SDU Size (PDP Subscription) | Maximum allowable size of Service Data Units (SDUs) in octets, which is associated with this PDP subscription data. |
| Max Bit Rate Uplink (PDP Subscription) | Maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription. Indicates maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription. |
| Max Bit Rate Downlink (PDP Subscription) | Maximum allowable rate in kbps for sending the data from network to the MS, which is associated with the PDP subscription. |
| Residual Bit Error Rate (PDP Subscription) | Reliability based on residual Bit Error Rate (BER) associated with PDP subscription. For specific traffic class such as conversational, streaming, interactive or background, certain range of residual BER is required. |

| Field | Description |
|---|---|
| SDU Error Rate (PDP Subscription) | Reliability class based on Service Delivery Unit (SDU) error rate associated with the PDP subscription. For specific traffic class such as Conversational, Streaming, Interactive or background, certain range of SDU error rate is required. |
| Traffic Handling Priority (PDP Subscription) | Priority or importance of handling SDUs belonging to a specific context associated with the PDP subscription. |
| Transfer Delay (PDP Subscription) | Delay encountered in ms, while delivering about 95% of SDUs associated with the PDP context, in the life time of the bearer service. |
| Guaranteed Bit Rate Uplink (PDP Subscription) | Guaranteed number of bits delivered by MS to network in kbps for the associated PDP context. |
| Guaranteed Bit Rate Downlink (PDP Subscription) | Guaranteed number of bits delivered by network to MS, in kbps for the associated PDP context. |
| SSAF | Indicates if the SSAF flag is set during the CSFB procedure. |
| EMM Combined UE Waiting Flag | Indicates if the EMM combined UE waiting flag is set during the CSFB procedure. |
| Higher Than 16 Mbps | Displays the MM context value of the "higher bit rates than 16 Mbps" flag as either Allowed or Not Allowed or Unknown. |
| Subscription Type | Displays the configured subscription type as either "EPS" or "GPRS". |
| Evolved Allocation/Retention Priority | Displays the Evolved Allocation/Retention Priority parameters. |
| Priority level | Indicates the configured priority level of the E-ARP. |
| Pre-emption Vulnerability | Displays the configured pre-emption vulnerability value, the value is configured as either "0" or "1". |
| Pre-emption Capability | Displays the configured pre-emption capability value, the value is configured as either "0" or "1". |
| AMBR | Displays the Aggregate Maximum Bit Rate (AMBR) in bits per second. |
| Negotiated APN-AMBR UL | Displays the negotiated APN-AMBR value in uplink direction. |
| Negotiated APN-AMBR DL | Displays the negotiated APN-AMBR value in downlink direction. |
| Max-Requested-Bandwidth-UL | Displays the maximum requested bandwidth in uplink direction. |
| Max-Requested-Bandwidth-DL | Displays the maximum requested bandwidth in downlink direction. |
| Applied UE-AMBR DL | Displays the AMBR value applicable to the UE in downlink direction. |

show subscribers sgsn-only summary

Table 595: show subscribers sgsn-only summary Command Output Descriptions

| Field | Description |
|---------------------------------|--|
| Total Subscribers | |
| Total Connected Subscribers | |
| Total Idle Subscribers | |
| Total Detached Subscribers | |
| Total Active Subscribers | |
| Total Subscribers using HLR | The total number of SGSN subscribers authorized via the home location register (HLR). |
| Total Subscribers using HSS | The total number of SGSN subscribers authorized via the home subscriber server (HSS). |
| Total PDP contexts | |
| pdp-type-ipv4 | |
| pdp-type-ppp | |
| pdp-type-ipv6 | |
| PDP contexts with direct tunnel | <p>Description: This proprietary statistic indicates the total number of PDP contexts activated with direct tunnel.</p> <p>Triggers: Increments when PDP context with direct tunnel feature is activated for a subscriber.</p> <p>Availability: per RNC, per RA, per SGSN service</p> |
| LCS Subscription | |
| GMLC List | Counter to display GMLC List information. |
| GMLC Address | Displays GMLC Address. |
| LCS Privacy Exception List | Displays the LCS privacy exception list. |
| LCS Privacy Class | Displays the LCS Privacy Class information. |
| SS Code | Displays the SS Code. |
| SS Status | Displays the SS Status. |
| Notification to MS User | Displays the notifications to MS user. |
| External Client List | Counter to display the external client list. |

| Field | Description |
|----------------------|--|
| External Client Id | Counter to display the external client Id. |
| GMLC Restriction | Displays the GMLC Restriction. |
| PLMN Client List | Counter to display the PLMN Client List. |
| PLMN | Displays the PLMN Id. |
| Service List | Counter to display the Service List. |
| Service Type Id | Counter to display the Service Type Id. |
| MOLR List | Displays the MOLR List. |
| MOLR Class | Displays the MOLR Class. |
| Ext PDP Type | Displays the PDP type. |
| Ext PDP Address Type | Displays the Ext. PDP Address Type only if Ext-PDP-Type is 'IPV4-V6'. |
| Ext PDP address | Displays the Ext. PDP Address only if Ext-PDP-Type is 'IPV4-V6'. |
| PGW Allocation Type | The PDN Allocation Type field in the EPS Subscription section of the "show subscribers sgsn-only full" and "show subscribers gprs-only full" commands has been renamed to avoid confusing this field with the PDP Address Allocation Type. The field has been renamed PGW Allocation Type. |

show subscribers sgsn-only partial qos negotiated

Table 596: show subscribers sgsn-only partial qos negotiated Command Output Descriptions

| Field | Description |
|---------------|--|
| QoS | Indicates the type of action for QoS. Possible values are: <ul style="list-style-type: none"> - QoS Requested (Re) - QoS Negotiated (Neg) |
| Traffic Class | Specifies the class of traffic. Possible values are: <ul style="list-style-type: none"> - Conversational (Conv) - Streaming (Strm) - Background (Back) - Interactive (Intr) - Unknown (Unkn) |

| Field | Description |
|----------------------|---|
| Value | Specifies the status of QoS and subscriber. Possible values are: <ul style="list-style-type: none"> - Subscribed (Subs) - Reserved (Resv) - Best Effort (Best) - Negotiated (Nego) |
| IMSI | Indicates the International Mobile Subscriber identity of subscriber. |
| NSAPI | Indicates the Network Service Access Point Identifier of the subscriber. |
| Peak Thruput octet/h | The peak throughput in octets per hour for this subscriber. |
| Mean Thruput octet/h | The mean throughput in octets per hour for this subscriber. |
| MAX SDU Size | The maximum size of service data unit (SDU) in KB. |
| MBR UP kbps | The maximum bit rate in kilobit per second allowed for this subscriber for upload. |
| MBR Down kbps | The maximum bit rate in kilobit per second allowed for this subscriber for download. |
| GBR UP kbps | The guaranteed bit rate in kilobit per second allowed for this subscriber for upload. |
| GBR Down kbps | The guaranteed bit rate in kilobit per second allowed for this subscriber for download. |

show subscribers sgw-address

Table 597: show subscribers sgw-address Command Output Descriptions

| Field | Description |
|-----------|---|
| vvvvvv | Displays service and session state information. This column provides a code consisting of six characters. |
| | From left-to-right, the first character represents the Access Type that the subscriber is using. See |
| | The second character represents the Access Technology . See |
| | The third character represents the Call State . See |
| | The fourth character represents the Access CSCF Status of the session. The possible network types are: A - Attached N - Not Attached . (period) - Not Applicable |
| | The fifth character represents the Link Status of the session. The possible idle states are: A - Online/Active D - Dormant/Idle |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| USERNAME | Displays the subscriber's username. |
| IP | Displays the IP address assigned to the subscriber. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

```
show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>
```

Table 598: show subscribers summary Command Output Descriptions

| Field | Description |
|-------------------|-------------|
| Total Subscribers | |

| Field | Description |
|-------|---|
| | <p>Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them:</p> <p>Type of subscribers and packet/flow status are:</p> <ul style="list-style-type: none"> - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 |

show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>

| Field | Description |
|-------|-------------------------------------|
| | - pdif-mobile-ip - pdg-direct-ip |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

```
show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>
```

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subtype-g - nsgsn-subtype-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw |

| Field | Description |
|-------|------------------------------|
| | - hnbgw-iu - bng - pcc |

show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - ipv6 out-acl dropped - ipv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows |

| Field | Description |
|---------|--|
| | <ul style="list-style-type: none"> - pdsn rev dynamic flows - fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates |
| Active | Displays the total number all type of Active subscribers on the chassis. |
| Dormant | Displays the total number all type of Dormant subscribers on the chassis. |

show subscribers tft

Table 599: show subscribers tft Command Output Descriptions

| Field | Description |
|--|--|
| Username | Specifies the name of the subscriber. |
| callid | Displays the subscriber's call identification number (callid). |
| msid | Displays the subscriber's mobile station identification (MSID). |
| Number of TFTs | Displays the number of Traffic Flow Templates (TFTs). |
| MS IP Address | Displays the MS IP address. |
| Number of Packet Filters | Displays the number of Packet Filters. |
| Filter Evaluation Precedence 1: | |
| Flow Id | Displays the flow ID for the first precedence. |
| Flow Direction | Displays the flow direction (FORWARD or REVERSE) for the first precedence. |
| Flow State | Displays the flow state and A10 mapping for the first precedence. |
| Packet Filter Type | Displays the type of Packet Filter for the first precedence. |
| Filter Components Follows | |
| Ipv4 Source Addr/Mask | Displays the IP address and mask for the Ipv4 source address. |
| Filter Evaluation Precedence 2: | |

| Field | Description |
|---|---|
| Flow Id | Displays the flow ID for the second precedence. |
| Flow Direction | Displays the flow direction (FORWARD or REVERSE) for the second precedence. |
| Flow State | Displays the flow state and A10 mapping for the second precedence. |
| Packet Filter Type | Displays the type of Packet Filter for the second precedence. |
| Filter Components Follows | |
| Ipv4 Source Addr/Mask | Displays the IP address and mask for the Ipv4 source address. |
| Total TFTs matching specified criteria: | Displays the total number of matching TFTs. |

show subscribers summary rulename <rule_name>

**Important**

In Release 20 and later, HNBNW is not supported. For more information, contact your Cisco account representative.

```
show subscribers summary rulename <rule_name>
```

Table 600: show subscribers summary Command Output Descriptions

| Field | Description |
|-------------------|-------------|
| Total Subscribers | |

| Field | Description |
|-------|---|
| | <p>Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them:</p> <p>Type of subscribers and packet/flow status are:</p> <ul style="list-style-type: none"> - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 |

show subscribers summary rulename <rule_name>

| Field | Description |
|-------|-------------------------------------|
| | - pdif-mobile-ip - pdg-direct-ip |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

show subscribers summary rulename <rule_name>

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subtype-g - nsgsn-subtype-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw |

| Field | Description |
|-------|------------------------------|
| | - hnbgw-iu - bng - pcc |

 show subscribers summary rulename <rule_name>

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - ipv6 out-acl dropped - ipv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows |

| Field | Description |
|---------|--|
| | <ul style="list-style-type: none"> - pdsn rev dynamic flows - fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates |
| Active | Displays the total number all type of Active subscribers on the chassis. |
| Dormant | Displays the total number all type of Dormant subscribers on the chassis. |

show subscribers summary without-dynamic-rule



Important

In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 601: show subscribers summary without-dynamic-rule Command Output Descriptions

| Field | Description |
|-------------------|-------------|
| Total Subscribers | |

| Field | Description |
|-------|---|
| | <p>Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them:</p> <p>Type of subscribers and packet/flow status are:</p> <ul style="list-style-type: none"> - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 |

| Field | Description |
|-------|-------------------------------------|
| | - pdif-mobile-ip - pdg-direct-ip |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subtype-g - nsgsn-subtype-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw |

| Field | Description |
|-------|------------------------------|
| | - hnbgw-iu - bng - pcc |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - ipv6 out-acl dropped - ipv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu revd - ipv4 icmp packets dropped - ipv6 input ehrrpd-access drop - ipv6 output ehrrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows |

| Field | Description |
|---------|---|
| | - pdsn rev dynamic flows |
| | - fwd static access-flows |
| | - rev static access-flows |
| | - pdsn fwd packet filters |
| | - pdsn rev packet filters |
| | - traffic flow templates |
| Active | Displays the total number all type of Active subscribers on the chassis. |
| Dormant | Displays the total number all type of Dormant subscribers on the chassis. |

show subscribers summary without-override-control

**Important**

In Release 20 and later, HNMGW is not supported. For more information, contact your Cisco account representative.

Table 602: show subscribers summary without-override-control Command Output Descriptions

| Field | Description |
|-------------------|-------------|
| Total Subscribers | |

| Field | Description |
|-------|---|
| | <p>Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them:</p> <p>Type of subscribers and packet/flow status are:</p> <ul style="list-style-type: none"> - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 |

| Field | Description |
|-------|-------------------------------------|
| | - pdif-mobile-ip - pdg-direct-ip |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subtype-g - nsgsn-subtype-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw |

| Field | Description |
|-------|------------------------------|
| | - hnbgw-iu - bng - pcc |

| Field | Description |
|------------------------------------|-------------|
| Total Subscribers (<i>cont.</i>) | |

| Field | Description |
|-------|--|
| | <ul style="list-style-type: none"> - in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - ipv6 out-acl dropped - ipv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows |

| Field | Description |
|---------|--|
| | - pdsn rev dynamic flows - fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates |
| Active | Displays the total number all type of Active subscribers on the chassis. |
| Dormant | Displays the total number all type of Dormant subscribers on the chassis. |

show subscribers wf1 all

Table 603: show subscribers wf1 all Command Output Descriptions

| Field | Description |
|-----------|---|
| vvvvvv | <p>Displays service and session state information. This column provides a code consisting of six characters.</p> <p>From left-to-right, the first character represents the Access Type that the subscriber is using. See</p> <p>The second character represents the Access Technology. See</p> <p>The third character represents the Call State. See</p> <p>The fourth character represents the Link Status of the session. The possible idle states are:</p> <ul style="list-style-type: none"> - A: Online/Active (airlink connected) - D: Dormant (airlink not connected) <p>Note: Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.</p> <p>The fifth character represents the session Network Type. See</p> <p>The sixth character represents the Access CSCF Status of the session. The possible network types are:</p> <ul style="list-style-type: none"> - A: Attached - C: Call (Unknown Type) - N: Not Attached - v: Voice Call - . (period): Not Applicable - V: Video Call |
| CALLID | Displays the subscriber's call identification (callid) number. |
| MSID | Displays the subscriber's mobile station identification (MSID) number. |
| USERNAME | Displays the subscriber's username. |
| IP | Displays the IP address assigned to the subscriber. |
| TIME-IDLE | Displays the amount of time that the subscriber session has been idle either in an active or dormant state. |

| Field | Description |
|----------------------|---|
| Access Peer Address | <p>The peer that accessed the system to initiate the subscriber session. This is an IP v4 address and a designator to identify the type of peer. The designator may be one of:</p> <ul style="list-style-type: none"> - BS: ASN Base Station - ASNGW: Access Service Network Gateway - PCF: Packet Control Function - FA: Mobile IP Foreign Agent - SGSN: Serving GPRS Support Node - LAC: L2TP Access Concentrator |
| Service Address | <p>The service that is processing the subscriber session. This is listed as an IP v4 address and a designator to identify the type of service. The designator may be one of:</p> <ul style="list-style-type: none"> - ASNGW: Access Service Network Gateway - PDSN: Packet Data Serving Node - HA: Mobile IP Home Agent - GGSN: Gateway GPRS Support Node - LNS: L2TP Network Server |
| Network Peer Address | <p>The network peer that the subscriber session connect to. This is listed as an IP v4 address and a designator to identify the type of network peer. The designator may be one of:</p> <ul style="list-style-type: none"> - HA: Mobile IP Home Agent - LNS: L2TP Network Server - IPinIP: IP-in-IP Tunnel Peer - GRE: Generic Routing Encapsulation Peer - 6in4: IP V6 packets encapsulated in an IP v4 tunnel peer |
| Connect Time | The date and time that the subscriber session was connected. |

Common Attributes

Access Types

- (#) - saegw-gtp-ipv6
- (\$) - saegw-gtp-ipv4-ipv6
- (&) - cgw-gtp-ipv4
- (*) - cgw-gtp-ipv4-ipv6

- (@) - saegw-gtp-ipv4
- (^) - cgw-gtp-ipv6
- (+) - samog-eogre
- (2) - sgsn-pdp-type-ipv4-ipv6
- (3) - GILAN
- (4) - sgsn-pdp-type-ip
- (6) - sgsn-pdp-type-ipv6
- (a) - phsgw-simple-ip
- (A) - asngw-simple-i
- (b) - phsgw-mobile-ip
- (B) - asngw-mobile-ip
- (c) - phspc
- (C) - cscf-sip
- (D) - bng-simple-ip
- (e) - ggsn-mbms-ue
- (E) - ha-mobile-ipv6
- (f) - hnbgw-hnb
- (F) - standalone-fa
- (g) - hnbgw-iu
- (G) - IPSG
- (h) - ha-ipsec
- (H) - ha-mobile-ip
- (i) - asnpc
- (I) - ggsn-pdp-type-ipv
- (j) - phsgw-non-anchor
- (J) - asngw-non-anchor
- (k) - PCC
- (K) - pdif-mobile-ip
- (l) - pgw-pmip
- (L) - pdif-simple-ip
- (m) - hnbgw-henb
- (M) - pdsn-mobile-ip
- (n) - ePDG
- (N) - lns-l2tp
- (o) - femto-ip
- (O) - sgw-gtp-ipv6
- (p) - sgsn-pdp-type-ppp
- (P) - ggsn-pdp-type-ppp
- (q) - wsg-simple-ip
- (Q) - sgw-gtp-ipv4-ipv6
- (r) - samog-pmip
- (R) - sgw-gtp-ipv4
- (s) - sgsn
- (S) - pdsn-simple-ip
- (t) - hnbgw-ue
- (T) - pdg-ssl

- (u) - Unknown
- (U) - pdg-ipsec-ipv4
- (v) - pdg-ipsec-ipv6
- (V) - ggsn-pdp-type-ipv6
- (W) - pgw-gtp-ipv4
- (x) - s1-mme
- (X) - HSGW
- (y) - asngw-auth-only
- (Y) - pgw-gtp-ipv6
- (z) - ggsn-pdp-type-ipv4v6
- (Z) - pgw-gtp-ipv4-ipv6

Access Technologies

- (.) - Other/Unknown
- (A) - CDMA EV-DO REVA
- (B) - PPPoE
- (C) - CDMA Other
- (D) - CDMA EV-DO
- (E) - GPRS GERAN
- (F) - FEMTO UTRAN
- (G) - GPRS Other
- (H) - PHS
- (I) - IP
- (L) - eHRPD
- (M) - WiMax
- (N) - GAN
- (O) - Femto IPsec
- (P) - PDIF
- (Q) - WSG
- (S) - HSPA
- (T) - eUTRAN
- (U) - WCDMA UTRAN
- (W) - Wireless LAN
- (X) - CDMA 1xRTT

Call States

- (c) - Connecting
- (C) - Connected
- (d) - Disconnecting
- (r) - CSCF-Registering
- (R) - CSCF-Registered
- (u) - Unknown
- (U) - CSCF-Unregistered

Network Types

- (/) - GTPv1(For SAMOG)
- (+) - GTPv2(For SAMOG)
- (A) - R4 (IP-GRE)
- (C) - GTP
- (G) - GRE
- (i) - IP-in-IP
- (I) - IP
- (L) - L2TP
- (M) - Mobile-IP
- (P) - Proxy-Mobile-IP
- (R) - IPv4+IPv6
- (S) - IPSEC
- (T) - IPv6
- (u) - Unknown
- (v) - PMIPv6(IPv6)
- (V) - IPv6-in-IPv4
- (W) - PMIPv6(IPv4)
- (Y) - PMIPv6(IPv4+IPv6)



CHAPTER 141

show support

This chapter describes the outputs of the **show support** command.

- [show support collection](#), on page 2305
- [show support collection definitions](#), on page 2305
- [show support details](#), on page 2306
- [show support details icrs](#), on page 2306
- [show support record](#), on page 2307

show support collection

Table 604: show support collection Command Output Descriptions

| Field | Description |
|-----------|---|
| ID | ID number of the collection file (0 to 65536). |
| Name | File name of the compressed collection file, in the format: sdr.<id>.gz. |
| Size | Size of the file in bytes. |
| Date/Time | Timestamp of the file, in the format: <day-of-week> <month> <day> <hh:mm:ss> <timezone> <yyyy>. |
| Total | Total number of SDRs, total byte count, and time span is last <nnn> days <hh> hour(s). |

show support collection definitions

Table 605: show support collection definitions Command Output Descriptions

| Field | Description |
|-------|---|
| No. | ID number of the collection definition. |

| Field | Description |
|--------------|---|
| Default | Status of the collection definition. Enabled = Included in the default record section; Disabled = Not included in the default record section. |
| section name | StarOS name of the record. |
| command line | Actual text of the StarOS CLI command within double quotation marks. |

show support details

This command displays the output of all of the CLI command strings in the SDR section. The commands are separated by a string of asterisks (*****) bracketing the textual CLI command. The output can be very lengthy depending on the system configuration.

You have the option when running this command to print the output to a file.

show support details icshr

The **icshr** keyword captures only ICSR-specific information needed for debugging. This keyword reduces the **show support details** (SSD) capture time when debugging ICSR timing issues between the Active and Standby chassis, facilitating quicker resolution of the problem.

This command displays the output of the CLI command strings listed below. The commands are separated by a string of asterisks (*****) bracketing the textual CLI command.

You have the option when running this command to print the output to a file.

The **icshr** keyword produces a mini SSD that contains the output of the following **show** commands:

- show srp info
- show srp checkpoint statistics
- show srp checkpoint statistics verbose
- show srp checkpoint statistics debug-info
- show srp checkpoint statistics sessmgr all
- show srp checkpoint statistics sessmgr all debug-info
- show srp checkpoint statistics ipsecmgr all
- show srp checkpoint statistics sessmgr all write-list-stats
- show srp checkpoint info
- show srp monitor
- show srp monitor all
- show srp monitor diameter debug
- show srp statistics
- show srp call-loss statistics
- show srp audit-statistics
- show session subsystem facility sessmgr all debug-info

show support record

This command displays the output of a specified collection record or range of collection records. The commands are separated by a string of asterisks (*****) bracketing the textual CLI command. The output can be very lengthy depending on the system configuration.



CHAPTER 142

show supplementary-service

This chapter describes the output of the **show supplementary-service** command variants.

- [show supplementary-service statistics, on page 2309](#)

show supplementary-service statistics

Table 606: show supplementary-service statistics Command Output Descriptions

| Field | Description |
|-----------------------------|---|
| SS Messages | Supplementary Service messages |
| 3G-Register Rx | Number of Register messages received by SGSN from UE in 3G . |
| Discarded | Number of Register messages discarded. |
| 3G-Register Tx | Number of Register messages transmitted from SGSN to UE in 3G. |
| Location Notification | Number of Location Notification messages sent to UE. |
| Current Location | Number of Location Notification messages sent to UE asking for current location of the UE. |
| Current/Last known Loc Type | Number of Location Notification messages sent to UE asking for current and last known location. |
| 3G-Facility Rx | Number of Facility messages received from UE. |
| Discarded | Number of Facility messages discarded. |
| 3G-Facility Tx | Number of Facility message transmitted. |
| 3G-RLC-Rx | Number of Release Complete messages received from UE. |
| Abort | Number of Release Complete messages received from UE to abort the ongoing LCS procedure. |

| Field | Description |
|---------------------------|---|
| Return Result | Number of Release Complete message received with Return Result Component. |
| Verification Response | Number of Release complete messages received with component Return Result for Location Notification's response. |
| Permission Denied | Number of Location Notification response messages received with the result Permission denied. |
| Permission Granted | Number of Location Notification response messages received with the result Permission granted. |
| Reject | Number of Release complete messages received with Reject component. |
| Decode Error | Number of Release complete messages received with decode error. |
| 3G-RLC-Tx | Number of Release complete messages transmitted. |
| Abort | Number of Release complete messages transmitted to abort the ongoing LCS procedure. |
| 3G-LCS guard timer expiry | Number of times the guard timer for 3G has expired. |



CHAPTER 143

show tacacs

This chapter provides **show tacacs** command output tables.

- [show tacacs](#), on page 2311
- [show tacacs client statistics](#), on page 2312
- [show tacacs priv-lvl](#), on page 2313
- [show tacacs session statistics](#), on page 2314
- [show tacacs summary](#), on page 2316

show tacacs

Table 607: show tacacs Command Output Descriptions

| Field | Description |
|---------------------------|--|
| active session # <i>n</i> | Numerical identifier of an active TACACS+ session. |
| login username | The username of the TACACS+ user. |
| login tty | The physical or logical port identifier for a user login. |
| time of login | The date and time of the TACACS+ login. |
| login server priority | The specified priority of the TACACS+ server used for login. |
| current login status | The current login status for this user (pass/fail). |
| current session state | The current operational state of the TACACS+ session. |

| Field | Description |
|---------------------------|---|
| current privilege level | <p>The CLI privilege level assigned to the user (default assignments are shown below):</p> <ul style="list-style-type: none"> • 0: Inspector (CLI only) • 1: Inspector (CLI and ECSEMS only) • 2: Inspector (FTP only) • 3: Inspector (CLI and FTP only) • 4: Inspector (CLI, FTP, and ECSEMS only) • 5: Operator (CLI only) • 6: Operator (CLI and ECSEMS only) • 7: Operator (FTP only) • 8: Operator (CLI and FTP only) • 9: Operator (CLI, FTP and ECSEMS only) • 10: Administrator (CLI only) • 11: Administrator (CLI and ECSEMS only) • 12: Administrator (FTP only) • 13: Administrator (CLI, FTP and Lawful Intercept only) • 14: Administrator (CLI, FTP and ECSEMS only) • 15: Administrator (CLI, FTP, ECSEMS and Lawful Intercept) |
| remote client application | <p>The application type used by the remote client to access StarOS, if known:</p> <ul style="list-style-type: none"> • telnet • ssh • ftp • console • unknown |
| remote client ip address | <p>The IP address of the remote client. If the remote client IP address cannot be determined or is unknown, this field will contain all zeros or be blank. For example, logins via the ASR 5x00 console port typically are not assigned an IP address.</p> |
| last server reply status | <p>The last known server error code returned for this user session.</p> |
| Total TACACS+ sessions | <p>The total number of TACACS+ sessions that are currently active.</p> |

show tacacs client statistics

Table 608: show tacacs client statistics Command Output Descriptions

| Field | Description |
|-------------------------|--|
| last login failure time | <p>The timestamp of the most recent failed TACACS+ authentication attempt.</p> |

| Field | Description |
|------------------------|--|
| successful connections | The total number of successful TACACS+ connections established with the TACACS+ server. |
| failed connections | The total number of connection attempts with a TACACS+ server that have failed. |
| authentication PASS | The total number of connections established with a TACACS+ server that have passed authentication. |
| authentication FAIL | The total number of authentication connections attempts with a TACACS+ server that have failed. |
| session starts | The total number of TACACS+ session starts. A session start is defined as the point at which the TACACS+ user has passed authentication. |
| active sessions | The total number of active TACACS+ sessions. |
| authorization errors | The total number of TACACS+ authorization errors. |
| accounting errors | The total number of TACACS+ accounting errors. |
| non-TACACS+ logins | The total number of non-TACACS+ logins. Note that the system can be configured to allow TACACS+ users to continue on to use non-TACACS+ authentication services if the user fails the TACACS+ login. |

show tacacs priv-lvl

Table 609: show tacacs priv-lvl Command Output Descriptions

| Field | Description |
|----------|---|
| priv-lvl | TACACS+ priv-level shown as an integer from 1 through 15. |
| cli | Access to StarOS CLI (yes or no). |
| ftp | Access to FTP (yes or no). |
| ecs | Access to Enhanced Charging Service (ECS) commands [yes or no]. |
| li | Access to Lawful Intercept (LI) commands [yes or no]. |

| Field | Description |
|---------------------|---|
| authorization-level | <p>Specifies the StarOS administrative authorization level for this privilege level:</p> <ul style="list-style-type: none"> • administrator – Allows user to execute Administrator level configuration commands. • inspector – Allows user to execute Inspector commands. • operator – Allows user to execute Operator commands. • security-admin – Allows user to execute Security Administrator commands. |

show tacacs session statistics

Table 610: show tacacs session statistics Command Output Descriptions

| Field | Description |
|--------------------|--|
| active session #n | A numerical identifier assigned to an active TACACS+ CLI session. |
| task id | The software task ID assigned by the client to identify TACACS+ accounting statistics. |
| task instance | The software task instance ID assigned by the ASR 5000 for each active TACACS+ session. |
| login username | The username assigned to this TACACS+ session. |
| login tty | The logical or physical port identifier assigned for a TACACS+ login. |
| tty connect time | The time at which the TACACS+ connection was established. |
| session start time | The time and date of the TACACS+ session start time, which is defined as the time at which a TACACS+ user passes TACACS+ authentication. |
| pre-bytes in | The total number of bytes received from the TACACS+ server before the TACACS+ user was authenticated. |
| pre-bytes out | The total number of bytes sent to the TACACS+ server before the TACACS+ user was authenticated. |
| pre-packets in | The total number of packets received from the TACACS+ server before the TACACS+ user was authenticated. |
| pre-packets out | The total number of packets sent to the TACACS+ server before the TACACS+ user was authenticated. |

| Field | Description |
|------------------------------|---|
| bytes in | The total number of bytes (pre- and post-authentication) received from the TACACS+ server after the TACACS+ user was authenticated. |
| bytes out | The total number of bytes sent (pre- and post-authentication) to the TACACS+ server after the TACACS+ user was authenticated. |
| packets in | The total number of packets (pre- and post-authentication) received from the TACACS+ server for this TACACS+ session. |
| packets out | The total number of packets (pre- and post-authentication) sent to the TACACS+ server after the TACACS+ user was authenticated. |
| authen start requestssuccess | The total number of authentication start requests sent to the TACACS+ server that were successful. |
| authen start requestsererror | The total number of authentication start requests sent to the TACACS+ server that were unsuccessful, typically due to a protocol error. |
| authen cont requestssuccess | The total number of authentication continue requests sent to the TACACS+ server that were successful. |
| authen cont requestsererror | The total number of authentication continue (username and/or password) requests sent to the TACACS+ server that were failed, typically due to a protocol error. |
| authen start/cont repsuccess | The number of authentication start/continue Reply messages received from the TACACS+ server that were successful. |
| authen start/cont repfailure | The number of authentication start/continue Reply messages received from the TACACS+ server that failed. |
| authen start/cont reptimeout | The number of authentication start/continue Reply messages received from the TACACS+ server that timed out. |
| author requests success | The number of TACACS+ authorization requests sent to the TACACS+ server that were successful. |
| author requests failure | The number of TACACS+ authorization requests sent to the TACACS+ server that failed. |
| author responsessuccess | The number of authorization responses received from the TACACS+ server that were successful. |
| author responsesfailure | The number of authorization responses received from the TACACS+ server that failed. |
| author responsestimeout | The number of authorization responses from the TACACS+ server that timed out. |

| Field | Description |
|------------------------------|---|
| account requestssuccess | The number of accounting requests sent to the TACACS+ server that were successful. |
| account requests error | The number of accounting requests sent to the TACACS+ server that were unsuccessful, typically due to a protocol error. |
| account replies success | The number of accounting replies from the TACACS+ server that were successful. |
| account replies failure | The number of accounting replies from the TACACS+ server that failed. |
| account replies timeout | The number of accounting replies from the TACACS+ server that timed out. |
| total active TACACS+sessions | The total number of currently active TACACS+ sessions. |

show tacacs summary

The output of this command is identical to [show tacacs](#), on page 2311



CHAPTER 144

show task

This chapter describes the outputs of the **show task** command.

- [show task info](#), on page 2317
- [show task memory](#), on page 2318
- [show task resources card](#), on page 2319
- [show task resources facility](#), on page 2320
- [show task resources max](#), on page 2320
- [show task table](#), on page 2321

show task info

This command displays current information about tasks running on the system.

Table 611: show task info Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| Task <facility> instance <id> | Identifies the task by its facility name and the instance identifier for which statistics are displayed. |
| Process <process> | Identifies the process for which statistics are displayed. |
| Location | The card number, CPU number and process identifier (Pid) for which statistics are displayed. |
| Parent | The parent task and instance identifier, as well the location where the parent task is running. |
| CPU usage | The percentage of CPU time actually used versus allocated (allc), as well as the maximum used. |
| File usage | The number of files actually used versus allocated, as well as the maximum used. |
| Memory usage | The amount of memory actually used versus allocated, as well as the maximum used. (release 12.x) |

| Field | Description |
|----------------------------------|---|
| Heap Memory usage | The amount of memory initialized at runtime that was dynamically allocated (used) versus originally allocated. |
| Physical Memory usage | The amount of physical memory used versus allocated. |
| Virtual Memory usage | The amount of memory managed by the kernel that was actually used versus allocated. |
| Max usage reset info | Information related to the resetting of maximum usage statistics. |
| Last reset | Timestamp identifying when maximum usage statistics were last reset. |
| Last reset reason | The reason why maximum usage statistics were reset. |
| P2P sessions | Displays the number of P2P sessions used and the maximum number of P2P sessions allowed. |
| Per Subscriber Firewall sessions | Displays the number of subscriber Firewall sessions used and the maximum number of subscriber Firewall sessions allowed. |
| Total sessions | Displays the total number of used sessions, the maximum number of sessions allowed, and the number of allocated sessions. |
| Status | Indicates the status of the configured service sessions. |

show task memory

This command displays current statistics for memory.

Table 612: show task memory Command Output Descriptions

| Field | Description |
|-----------------------|--|
| cpu | The CPU on the specified card where the task is running (identified by slot_number/CPU_number). |
| facility | The facility for which statistics are displayed. |
| task inst | The task instance identifier. |
| heap memory usage | The amount of memory initialized at runtime that was dynamically allocated (used) versus originally allocated. |
| physical memory usage | The amount of physical memory actually used versus allocated. |
| virtual memory usage | The amount of memory managed by the kernel that was actually used versus allocated. |

| Field | Description |
|--------|---|
| status | <p>The general status of the card, for example, "good".</p> <p>Important The starSGSNRMMemWarn trap will only be generated if the memory usage is above the threshold limit for more than the configured amount of time (60 seconds). Refer to the show task resources and show task memory CLI commands in the <i>Statistics and Counters Reference</i> to list the used and maximum allocated resources for all proclcts. A trap is generated if the memory usage reaches the Warn state or over. The trap will clear as soon as the resource usage is below the threshold values without any delay.</p> |
| Total | Summary for all task instances, CPU time, memory, files and sessions. |

show task resources card

This command displays current statistics per card.

Table 613: show task resources card Command Output Descriptions

| Field | Description |
|-----------|---|
| cpu | The CPU on the specified card where the task is running (identified by slot_number/CPU_number). |
| facility | The facility for which statistics are displayed. |
| task inst | The task instance identifier. |
| cputime | The percentage of CPU time actually used versus the allocated time (allc). |
| memory | The amount of memory actually used versus allocated. |
| files | The number of files actually used versus allocated. |
| sessions | The number of sessions used versus allocated, as well as the status of those sessions. |

| Field | Description |
|--------|--|
| status | The general status of the card, for example, "good". Important The starSGSNRMMemWarn trap will only be generated if the memory usage is above the threshold limit for more than the configured amount of time (60 seconds). Refer to the show task resources and show task memory CLI commands in the <i>Statistics and Counters Reference</i> to list the used and maximum allocated resources for all proclefs. A trap is generated if the memory usage reaches the Warn state or over. The trap will clear as soon as the resource usage is below the threshold values without any delay. |
| Total | Summary for all task instances, CPU time, memory, files and sessions. |

show task resources facility

This command displays current statistics for the specified facility.

Table 614: show task resources facility Command Output Descriptions

| Field | Description |
|-----------|---|
| cpu | The CPU on the card where the facility is running (identified by slot_number/CPU_number). |
| facility | The facility for which statistics are displayed. |
| task inst | The task instance identifier. |
| cputime | The percentage of CPU time actually used versus the allocated time (allc). |
| memory | The amount of memory actually used versus allocated. |
| files | The number of files actually used versus allocated. |
| sessions | The number of sessions used versus allocated, as well as the status of those sessions. |
| Total | Summary for all task instances, CPU time, memory, files and sessions. |

show task resources max

This command displays maximum (instead of current) statistics for all facilities.

Table 615: show task resources max Command Output Descriptions

| Field | Description |
|-----------|---|
| cpu | The CPU on the specified card where the facility is running (identified by slot_number/CPU_number). |
| facility | The facility for which maximum statistics are displayed. |
| task inst | The task instance identifier. |
| cputime | The maximum percentage of CPU time actually used versus the allocated time (allc). |
| memory | The maximum amount of memory actually used versus allocated. |
| files | The maximum number of files actually used versus allocated. |
| sessions | The maximum number of sessions used versus allocated, as well as the status of those sessions. |
| Total | Summary of maximum statistics for all task instances, CPU time, memory, files and sessions. |

show task table

This command displays current statistics for all child and parent facilities running on all cards in the system.

Table 616: show task table Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| Currently Running Tasks | |
| cpu | The CPU on the specified card where the facility is running (identified by slot_number/CPU_number). |
| task facility | The task/facility for which statistics are displayed. |
| inst | The task instance identifier. |
| pid | The process identifier. |
| pri | The priority of the instance. |
| Parent Tasks | |
| parent facility | The parent facility of the task for which statistics are displayed. |
| inst | The instance identifier of the parent facility. |
| pid | The process identifier of the parent facility. |



CHAPTER 145

show tcp-acceleration-profile all

This chapter includes the show **tcp-acceleration-profile all** command output tables.

- [show tcp-acceleration-profile all](#), on page 2323

show tcp-acceleration-profile all

Table 617: show tcp-acceleration-profile all Command Output Descriptions

| Field | Description |
|-------------------------------|--|
| TCP Acceleration Profile Name | Identifies the TCP acceleration profile name. |
| Initial Congestion Window | Identifies the Initial Congestion Window size in segments. |
| Max RTT | Identifies the maximum RTT value. |
| MSS | Identifies the maximum segment size. |
| Buffer Size (Downlink) | Identifies the TCP proxy buffer downlink data size in Kilobytes. |
| Buffer Size (Uplink) | Identifies the TCP proxy buffer uplink data size in Kilobytes. |



CHAPTER 146

show temperature

This chapter describes the output of the **show temperature** command variants.

- [show temperature, on page 2325](#)

show temperature

The **show temperature** command displays the current temperatures for installed cards, as well as the lower and upper fan trays.

Table 618: show temperature Command Output Descriptions

| Field | Description |
|-----------|--|
| Card | Indicates the slot number location of an installed card. |
| xx C | <p>Displays the current temperature in Celsius detected by a sensors on the card or fan unit. The maximum temperature limit at which the card is shut down appears in parentheses immediately after the current temperature.</p> <p>Temperature readings will vary by card based on the location of the card within the chassis and the turbulence associated with moving air around, over and through devices on the cards.</p> <p>There are temperature sensors associated with major power consuming devices on each card. When any device on any card exceeds a pre-set temperature limit, the fan speed is increased on both fan trays. When all sensors on all cards are below the threshold, fan speed is proportionally reduced. When the absolute limit is reached for a device on a card, the card is shut down.</p> <p>To display detailed information on device-level temperature sensors, run show temp verbose.</p> |
| Fan Upper | Indicates the temperature in Celsius of the air being exhausted from the chassis. The maximum operating temperature should not exceed +55 degrees C. |

| Field | Description |
|-----------|---|
| Fan Lower | Indicates the temperature in Celsius of the air being pulled into the chassis. The maximum ambient temperature should not exceed +40 degrees C. A temperature reading above +30 degrees C typically indicates that the environmental control system at the installation site may not be capable of handling the heat load of the chassis. |



CHAPTER 147

show threshold

This chapter describes the output of the **show threshold** command variants.

- [show threshold, on page 2327](#)

show threshold

Table 619: show threshold Command Output Descriptions

| Field | Description |
|---|--|
| Threshold operation model | The configured thresholding model. |
| Configured thresholds | Lists thresholds that were configured by the user (i.e. those that are not enabled as part of the system's default configuration). For each threshold listed, the scope, polling interval, and threshold values are displayed. |
| Active thresholds | Lists thresholds that are currently being monitored. Note that configured thresholds must be enabled using the threshold monitoring command before they're considered active. For each threshold listed, the scope, polling interval, and threshold values are displayed. |
| Enabled threshold groups: (name, scope) | Displays configured threshold groups and their scope (what the threshold is applied to (i.e. specific ports, IP pool groups, or system wide). |
| Non-default poll intervals | Displays all polling intervals whose user-configured values differ from the default values. NOTE: All threshold default values can be viewed using the show thresholds default command. |
| No outstanding alarm / Outstanding Alarms | Displays whether there are any outstanding (alarms for which no clear alarm was received) alarms or not. If outstanding alarms exist, they will be listed in this field. |



CHAPTER 148

show uidh-server

This chapter describes the output of the **show uidh-server** command variants.

- [show uidh-server name](#) , on page 2329
- [show uidh-server statistics](#), on page 2330

show uidh-server name

Table 620: show uidh-server name Command Output Descriptions

| Field | Description |
|----------------------------|---|
| Name | Indicates the UIDH Server name. |
| Context Name | Indicates the UIDH server context name. |
| Remote-address | Specifies the UIDH server's remote address. |
| Remote-port | Specifies the UIDH server's remote port address. |
| Local-address | Specifies the UIDH server's local address. |
| Refresh-interval | Specifies the UIDH server's refresh interval. |
| Response-timeout | Specifies the UIDH server's response timeout value. |
| ACSMgr Instance | Specifies the ACS manager instance with the UIDH server. |
| Total connections up | Specifies the total connections active with the UIDH server. |
| Total ACSManager Instances | Specifies the total ACS manager instance with the UIDH server. |
| Total Connections UP | Specifies the total number connections active with the UIDH server. |

show uidh-server statistics

Table 621: show uidh-server statistics Command Output Descriptions

| Field | Description |
|--------------------------------|---|
| Active UIDH Client Connections | Indicates currently active client connections with the UIDH server. |
| Current Opt-In Subscribers | Indicates the current Opt-In subscribers. |
| Total UIDH Request | Indicates the total number of UIDH requests. |
| Initial | Specifies the total number of initial UIDH requests transmitted |
| Refresh | Specifies the total number of UIDH Refresh Requests transmitted. |
| Total UIDH OptIn Response | Indicates the total number of UIDH Opt-In response. |
| Initial | Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for the Initial Requests. |
| Refresh | Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for Refresh Requests. |
| Total UIDH OptOut Response | Indicates the total number of Opt-out response. |
| Initial | Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Initial Requests. |
| Refresh | Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Refresh Requests. |
| UIDH Failure | Indicates the UIDH Failure. |
| Request Timeout | Specifies the total number of UIDH Requests that have expired on reaching the timeout value. |
| Initial | Specifies the total number of initial UIDH Requests that have expired on reaching the timeout value. |
| Refresh | Specifies the total number of refresh UIDH requests that have expired on reaching the timeout value. |
| Error Response Code | Indicates the UIDH Failure with an error response code. |

| Field | Description |
|---------------------------|--|
| Initial | Specifies the total of Failure Code UIDH response received for Initial Requests. |
| Refresh | Specifies the total of Failure Code UIDH response received for Refresh Requests. |
| Invalid Length | |
| Initial | |
| Refresh | |
| Request Enqueue Failed | |
| Initial | |
| Refresh | |
| Total UIDH Insertions | Indicates the total number of UIDH insertions in a HTTP request. |
| UIDH Whitelist Statistics | |
| URL Host Lookups | Specifies the number of URL Host lookups |
| URL Host Lookup Failed | Specifies the number of URL Host lookups that resulted in failure. |
| URL Host Matches | Specifies the number of URL Hosts matched. |
| URL Host Lookup Bypass | Specifies the number of URL Host Lookups bypassed |



CHAPTER 149

show url-blacklisting

This chapter includes the **show url-blacklisting** command output tables.

- [show url-blacklisting database all](#), on page 2333
- [show url-blacklisting database facility acsmgr instance](#), on page 2334
- [show url-blacklisting url](#), on page 2334

show url-blacklisting database all

Table 622: show url-blacklisting database all Command Output Descriptions

| Field | Description |
|--|--|
| URL Blacklisting Static Rating Databases: | |
| Last Upgrade Status | Indicates status of the last database upgrade. |
| Path | Indicates the database path, and the status—ACTIVE/NOT LOADED. |
| Database Status | Indicates status of the database. |
| Number of URLs in DB | The total number of URLs present in the database. |
| Type | Indicates the database type. |
| Version | Indicates the database version. |
| Creation Time | Indicates the database creation time. |
| Comment | Indicates additional information. |
| Last Access Time | Indicates the last access timestamp. |
| Last Modification Time | Indicates the last modification timestamp. |
| Last Status Change Time | Indicates the last status change timestamp. |

show url-blacklisting database facility acsmgr instance

Table 623: show url-blacklisting database facility acsmgr instance Command Output Descriptions

| Field | Description |
|---|---|
| URL-Blacklisting ACSMgr Instance Based Database Configuration: | |
| ACSMgr Instance | The ACSMgr instance number. |
| BL DB Load Status | The Blacklisting database's load status. |
| BL DB Version | The Blacklisting database's version number. |
| Number of URLs | The total number of URLs present in the Blacklisting database. |
| Checksum | Indicates checksum details. The Blacklisting database has only one page, so the checksum is of the only page present in the database. |

show url-blacklisting url

Table 624: show url-blacklisting url Command Output Descriptions

| Field | Description |
|--------------|-------------------------------|
| URL | Indicates the URL. |
| URL Hash | Indicates the URL hash. |
| URL Category | Indicates the URL category. |
| Haspath | Indicates the haspath status. |



CHAPTER 150

show version

This chapter describes the outputs of the **show version** command.

- [show version verbose, on page 2335](#)

show version verbose

This command displays information about the StarOS software currently running on the system.

Table 625: show version verbose Command Output Descriptions

| Field | Description |
|-----------------------|--|
| Image Version: | Identifies the StarOS version running on this platform. |
| Image Branch Version: | <i>StarOS releases prior to 16.1 only:</i> Identifies the StarOS version using its CDETS branch numbering scheme. Format = NNN.NNN(NNN). For example "015.000(001)". |
| Image Build Number: | <i>StarOS release 16.1 onwards:</i> Displays build number or build type (text string). |
| Image Description: | Brief text string that describes this build. For example, "Deployment_Build". |
| Image Date: | The date the software image was generated. Format = DoW MMM DD hh:mm:ss TZ YYYY. For example, "Tue Apr 23 00:45:12 EDT 2013". |
| Boot Image: | The pathname for the bootable image that is currently running. For example, "/flash/<image_filename>.bin". |
| Source Commit ID: | A 40-character string that corresponds to the Git commit identifier (SHA-1 hash) for the build. |
| Kernel Version: | The StarOS kernel version number. For example, "2.6.38-staros-v3-51074-deb-64". |
| Kernel Machine Type: | The StarOS machine (CPU) type. For example, "x86_64" (64-bit version of the Intel x86 instruction set). |



Important

When you run the **show version** command without the **verbose** keyword, Kernel Version and Kernel Machine Type are not displayed.



CHAPTER 151

show wsg

This chapter shows the outputs for the **show wsg-lookup** and **show wsg-service** commands.

- [show wsg-lookup, on page 2337](#)
- [show wsg-service all/name, on page 2337](#)
- [show wsg-service statistics, on page 2338](#)

show wsg-lookup

Table 626: show wsg-lookup Command Output Descriptions

| Field | Description |
|---|--|
| priority 1 source-netmask <value> destination-netmask <value> | Priority 1: source and destination netmasks. |
| priority 2 source-netmask <value> destination-netmask <value> | Priority 2: source and destination netmasks. |
| priority 3 source-netmask <value> destination-netmask <value> | Priority 3: source and destination netmasks. |
| priority 4 source-netmask <value> destination-netmask <value> | Priority 4: source and destination netmasks. |
| priority 5 source-netmask <value> destination-netmask <value> | Priority 5: source and destination netmasks. |
| priority 6 source-netmask <value> destination-netmask <value> | Priority 6: source and destination netmasks. |

show wsg-service all/name

Table 627: show wsg-service all/name Command Output Descriptions

| Field | Description |
|--------------|--|
| Service name | Name of the WSG service. |
| Context | Name of context associated with the WSG service. |
| Bind | Bound to interface: Done or None. |

| Field | Description |
|-----------------------------|--|
| Max Sessions | Maximum number of sessions. |
| IP address | IP address associated with this service. |
| UDP Port | UDP port number. |
| MTY | Maximum Transmission Unit in bytes. |
| Service State | Current state of this WSG service. |
| Crypto-template | Name of the crypto template associated with this WSG service. |
| deployment-mode | 1 = Remote Access; 2 = Site-to-Site (S2S) |
| peer-list | Name of peer list or "N/A." If a name is displayed the SecGW acts as an IKE initiator. |
| initiator-mode-duration | Interval in seconds that SecGW waits for a response after initiating a call setup request to an IKE peer. Default is 10. Requires peer-list name to be enabled. |
| responder-mode-duration | Interval in seconds that SecGW waits for a call request from an IKE peer before switching to initiator mode. Default is 10. Requires peer-list name to be enabled. |
| Duplicate session detection | Status of duplicate session detection feature: Disabled or Enabled. |

show wsg-service statistics

Table 628: show wsg-service statistics Command Output Descriptions

| Field | Description |
|------------------------|--|
| Session Stats: | |
| Current sessions total | Total number of sessions in progress including transient sessions. |
| Simple-IP IPv4 current | Number of current Simple-IPv4 sessions. |
| Simple-IP IPv6 current | Number of current Simple-IPv6 sessions. |
| Data-Clients | Total number of subscriber sessions originating from data clients. |
| Active current | Total number of currently active sessions. |
| Dormant current | Total number of currently dormant sessions. |
| Active IPv4 current | Total number of currently active IPv4 sessions. |
| Active IPv6 current | Total number of currently active IPv6 sessions. |

| Field | Description |
|-------------------------------------|--|
| Dormant IPv4 current | Total number of currently dormant IPv4 sessions. |
| Dormant IPv6 current | Total number of currently dormant IPv6 sessions. |
| Total Simple-IP | Total number of Simple-IP sessions. |
| Simple-IP-fallback attemps | Total number of Simple-IP fallback attempts. |
| Successes | Number of successful Simple-IP fallback sessions. |
| Failures | Number of failed Simple-IP fallback sessions. |
| Simple-IP-Fallback failure reasons: | |
| No Mobile-IP RRQ Rx | Mobile-IP RRQ request not received. |
| Not Allowed | Simple-IP fallback not allowed by configuration. |
| Tagged Pool Address | Address is in a pool and tagged not to allow Simple-IP fallback. |
| Misc. | Fallback failures due to other reasons. |
| Simple-IP attempts | Total number of Simple-IP session attempts. |
| Total setup success | Number of successful Simple-IP attempts. |
| Total Attempts Failed | Number of failed Simple-IP attempts. |
| Total disconnected | Total number of disconnected sessions. |
| Disconnected locally | Number of sessions disconnected locally. |
| Disconnected remotely | Number of sessions disconnected remotely. |
| Disconnect remotely before connect | Number of sessions disconnected remotely before the session was fully connected. |
| Session Disconnect reason: | |
| Remote disc. ipsec | Number of sessions disconnected because of remote party (mobile) hang-up. |
| Admin disconnect | Number of sessions disconnected by the Admin. |
| Idle timeout | Number of sessions disconnected because the Idle timer has timed out. |
| Absolute timeout | Number of sessions disconnected because the Absolute timer has timed out. |
| Long duration timeout | Number of sessions disconnected because the Long Duration timer has timed out. |

| Field | Description |
|--------------------------|--|
| Session setup timeout | Number of sessions disconnected because the Session Setup timer has timed out. |
| No resource | Number of sessions disconnected because the system has run out of resources (flows, memory, etc.). |
| Auth failure | Number of sessions disconnected because of an authentication failure. |
| Flow add failure | Number of sessions disconnected because flow could not be added on NPU. |
| Invalid dest-context | Number of sessions disconnected because the destination context coming from AAA server is invalid. |
| Source address violation | Number of sessions disconnected because the source IP address is invalid. |
| Duplicate Request | Number of sessions disconnected because of a duplicate request when there is already a session with the same NAI. |
| MAC validation failure | Number of sessions disconnected because the HSS cannot validate MAC address from remote user. |
| Addr assign failure | Number of sessions disconnected because no address has been assigned. |
| Miscellaneous reasons | Number of Mobile-IP sessions disconnected for other reasons. |
| Data Stats: | |
| Total Bytes Sent | Total number of bytes sent. |
| Total Packets Sent | Total number of packets sent. |
| Total Bytes Rcvd | Total number of bytes received. |
| Total Packets Rcvd | Total number of packets received. |
| Total Pckts Violations | Total number of packets received from UEs and destined for the Internet that do not match any of the configured traffic selectors. |
| EAP Server Stats: | |
| Total Received | Total number of EAP Success+ EAP Challenge + EAP Failures, coming from EAP server. |
| Success Received | Number of EAP successes received. |
| Challenge Received | Number of EAP challenges received. |
| Failures Received | Number of EAP failures received. |
| Discarded | Number of EAP server messages discarded. |

| Field | Description |
|--------------------|---|
| Total Sent | Total number of EAP server messages sent. |
| Initial Requests | Number of initial EAP requests. |
| Requests Forwarded | Number of EAP requests forwarded. |
| EAP Mobile Stats: | |
| Total Received | Total number of EAP Requests coming from mobile subscriber. |
| Discarded | Number of EAP mobile messages discarded. |



CHAPTER 152

show x2gw-service

This chapter describes the output of the **show x2gw-service** command variants.

- [show x2gw](#), on page 2343

show x2gw

Table 629: show x2gw Command Output Descriptions

| Field | Description |
|-----------------------------------|--|
| Context Name | The name of the system context in which the CGF is configured. |
| Primary Accounting server address | The IP address of the CGF. |
| port | The TCP port over which GTPP messaging is performed. |
| priority | The configured priority of the CGF. |
| State | The status of the CGF as Active or Inactive. |
| Group | The GTPP server group name in which this server is configured. |

