show subscribers

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show subscribers aaa-configuration

Table 1: 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 *AAA and GTPP Interface Administration and Reference*. If you are using StarOS 14.0 or a later release, refer to the *AAA Interface Administration and Reference*.

show subscribers access-flows

Table 2: 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: - 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: - 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: - 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 3: 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: - Mapped - Unmapped - Not Applicable
Flow Type	Indicates the access flow type as one of the following: - 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 4: 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: - **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: - **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: - **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 5: 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. - **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: - **A**: Online/Active - **D**: 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.
	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.

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 (N) - NB-IoT	Displays the amount of time that the subscriber session has been idle either in an active or dormant state. Display the NB-IoT RAT type

show subscribers apn <apn_name> rulename <rule_name>

Table 6: 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 153.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.
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 156.

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 7: 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 153.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.
Access CSCF State	The access state of the session. The possible states are: - **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 156.
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 8: 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 153.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.

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 156.
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 9: 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: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **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.
	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 10: show subscribers asngw-service 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: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **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.
	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 callid <callid> adc readdress statistics

Table 11: 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 12: 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 13: 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: • 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 14: 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
	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.

show subscribers firewall required

Table 15: 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: - **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 **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.
	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 16: 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: - 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: • 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 *n/a*.
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.

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 plcy grp	The active input policy group for traffic flow.
active output plcy 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 tot he 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 17: 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: - 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: • 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: - 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	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 plcy grp	Specifies active input policy group for traffic flow.
active output plcy 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	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.
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 18: 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	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.

Field	Description
out packet 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.
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	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 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	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.
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 19: 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: - **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: - **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: - **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: - **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 20: 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 153.
Network Type	Indicates the network service used for the subscriber session. See Network Types, on page 156.
Access Tech	Indicates the accessing technology. See Access Technologies, on page 155.
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: - CELL ID • 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: - 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 *Rf Interface Support* 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: - gtpp - 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 GTPP 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 plcy grp	The active input policy group for inward traffic flow.
active output plcy 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: - 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 reate (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 downing 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 tot he 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 21: 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: - 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: - 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: - 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 hhmmss.
Idle Time	Time period for which the subscriber session has been idle either in standby or dormant state. Displayed in format hhmmss.
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: - 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: - **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: - 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	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. The MS network capacity specifies parameters such as: - 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 indictor 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	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. Following are the DRX parameters: - 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)	Specifies the Core Network (CN) specific DRX cycle length coefficient support by MS. 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.
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	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. As per the bit mask: - 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.
	The following parameters constitute the ODB general data: - 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 barer 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	Current value of Super-Charger Enabled flag. It can be either true or False. 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.

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)	SGSN 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.
Requested and Negotiated QoS	A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as: - 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 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.
Reliability Class (Requested-QoS)	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.
Delay Class (Requested-QoS)	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.
Precedence Class (Requested-QoS)	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. This indicates the QoS parameter value requested by the MS to the network.

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 Deliver 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: - 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 form 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 tot he 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 22: 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: - **H**: HNB - **P**: PS Connection - **C**: CS Connection
	The second character represents the **Call State**. The possible call states are: - **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 23: 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: - 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: - 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: - **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: • 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: - 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 24: show subscribers hnbgw-service svc_name 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: - **H**: HNB - **P**: PS Connection - **C**: CS Connection
	The second character represents the **Call State**. The possible call states are: - **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 25: 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: - 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: - 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 26: 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 27: 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: - **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 (airlink connected) - **D**: Dormant (airlink not connected)
	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.

show subscribers pgw-only full all

Table 28: 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.
External ID	The External-Id that is used as an alternative ID for the MSISDNLess device. External-Id is received in the Network Access Identifier (NAI) format with a maximum size of 22 characters. The operator must ensure the correct format and size of the External-Id value.
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: • Multi-connection Mode • Single-connection Mode • Transparent Single Connection Mode
Emergency Bearer Type	The Emergency Bearer Type of the subscriber session.

Field	Description
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 *Rf Interface Support* 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.
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 Paging Policy Differentiation multiple-pra	Downlink bytes dropped during S-GW Restoration. Displays whether or not the PPD feature is enabled. Multiple Presence Reporting Area Information Reporting.
4G MHS Input Bytes	The total number of input bytes used with 4G Tethering.
4G MHS Output Bytes	The total number of output bytes used with 4G Tethering.
5G MHS Input Bytes	The total number of input bytes used with 5G Tethering.
5G MHS Output Bytes	The total number of ouput bytes used with 5G Tethering.
5G Composite Input Bytes	The total number of input bytes used with 5G Composite (Tethering and non-Tethering).
5G Composite Output Bytes	The total number of ouput bytes used with 5G Composite (Tethering and non-Tethering).

show subscribers pgw-only summary

Table 29: 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 30: 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.
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.

Field	Description
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.
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.

Field	Description
Terminate request failure	Total number of terminate request failures.

show subscribers rulename <rule_name>

Table 31: 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 153.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.
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 156.
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.

Field	Description
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 saegw-only full all

The output of the **show subscribers saegw-only full all** command displays the following details:

Field	Description
4G MHS Input Bytes	The total number of input bytes used with 4G Tethering.
4G MHS Output Bytes	The total number of output bytes used with 4G Tethering.
5G MHS Input Bytes	The total number of input bytes used with 5G Tethering.
5G MHS Output Bytes	The total number of ouput bytes used with 5G Tethering.
5G Composite Input Bytes	The total number of input bytes used with 5G Composite (Tethering and non-Tethering).
5G Composite Output Bytes	The total number of ouput bytes used with 5G Composite (Tethering and non-Tethering).
Access Tech: Indicates the accessing technology. See **Common Attributes** in this chapter.	

show subscribers without-dynamic-rule

Table 32: 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 153.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.

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 156.
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-override-control

Table 33: 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 153.

Field	Description
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 155.
Call State	The call state. See, Call States, on page 155.
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 156.
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 sgsn-only full

Table 34: 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: - **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.
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.

Field	Description
VLR-Association	States associated to the Gs interface in the VLR. Possible states are: - 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. 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: - 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.
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.

Field	Description
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.
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).

Field	Description
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	A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as: - 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 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.
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 35: 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	**Description**: This proprietary statistic indicates the total number of PDP contexts activated with direct tunnel. **Triggers**: Increments when PDP context with direct tunnel feature is activated for a subscriber. **Availability**: per RNC, per RA, per SGSN service
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 36: show subscribers sgsn-only partial qos negotiated Command Output Descriptions

Field	Description
QoS	Indicates the type of action for QoS. Possible values are: - QoS Requested (Re) - QoS Negotiated (Neg)
Traffic Class	Specifies the class of traffic. Possible values are: - Conversational (Conv) - Streaming (Strm) - Background (Back) - Interactive (Intr) - Unknown (Unkn)

Field	Description
Value	Specifies the status of QoS and subscriber. Possible values are: - 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 37: 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
	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.

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.

Table 38: show subscribers summary Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - 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 *(cont.)*	

Field	Description
	- 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-subs-type-g - nsgsn-subs-type-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 *(cont.)*	

Field	Description
	- 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 - i pv6 out-acl dropped - i pv4 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 tft

Table 39: 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, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 40: show subscribers summary Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - 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 *(cont.)*	

Field	Description
	- 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-subs-type-g - nsgsn-subs-type-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 *(cont.)*	

Field	Description
	- 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 - i pv6 out-acl dropped - i pv4 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 summary without-dynamic-rule

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

Table 41: show subscribers summary without-dynamic-rule Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - 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 *(cont.)*	

Field	Description
	- 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-subs-type-g - nsgsn-subs-type-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 *(cont.)*	

Field	Description
	- 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 - i pv6 out-acl dropped - i pv4 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 summary without-override-control

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

Table 42: show subscribers summary without-override-control Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - 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 *(cont.)*	

Field	Description
	- 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-subs-type-g - nsgsn-subs-type-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 *(cont.)*	

Field	Description
	- 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 - i pv6 out-acl dropped - i pv4 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 43: show subscribers wf1 all 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 **Link Status** of the session. The possible idle states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **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.
	The fifth character represents the session **Network Type**. See
	The sixth character represents the **Access CSCF Status** of the session. The possible network types are: - **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	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: - **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	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: - **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	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: - **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) - henbgw-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) - henbgw-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