Tech-Support Commands

This module describes commands used for displaying the output of **show** commands using Cisco IOS XR software software. The command output varies depending on the router platform and configuration.

The **show tech-support** commands all display common data from commands such as **show version** . Each **show tech-support** command also generates and gathers relevant data for a specific area. This data includes trace output to collect debugging information available in the specific area of interest.

To use commands of this module, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using any command, contact your AAA administrator for assistance.

show system verify

To verify the system parameters, use the **show system verify** command in EXEC mode.

show system verify [{**start** | **restart** [**detail**]}]

Syntax Description

start	(Optional) Performs an initial analysis of the system and stores the information for subsequent verification.
report	(Optional) Generates a report for the system verification process.
detail	(Optional) Generates a detailed report for the system verification process.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

You must run the **show system verify** command with the **start** keyword before generating any reports.

Task ID

Task ID	Operations
system	read

Examples

The following example shows how to prepare for system verification:

```
RP/0/RP0/CPU0:router# show system verify start

Storing initial router status ...
done.
```

The following example shows output from running the **show system verify** command:

```
RP/0/RP0/CPU0:router#  show system verify

Getting current router status ...
System Verification Report
==========================
- Verifying Memory Usage
- Verified Memory Usage                                  : [OK]
```

```
- Verifying CPU Usage
- Verified CPU Usage                                    : [OK]

- Verifying Blocked Processes
- Verified Blocked Processes                            : [OK]
- Verifying Aborted Processes
- Verified Aborted Processes                            : [OK]
- Verifying Crashed Processes
- Verified Crashed Processes                            : [OK]

- Verifying LC Status
- Verified LC Status                                    : [OK]
- Verifying QNET Status
Unable to get current LC status info
- Verified QNET Status                                  : [FAIL]

- Verifying GSP Fabric Status
- Verified GSP Fabric Status                            : [OK]
- Verifying GSP Ethernet Status
  gsp WARNING messages for router
  Current set of gsp ping nodes does not match initial set of nodes
- Verified GSP Ethernet Status                          : [WARNING]

- Verifying POS interface Status
- Verified POS interface Status                         : [OK]
- Verifying TenGigE interface Status
- Verified TenGigE interface Status                     : [OK]

- Verifying TCP statistics
- Verified TCP statistics                               : [OK]
- Verifying UDP statistics
  tcp_udp_raw WARNING messages for router
  UDP Packets sent has not increased during this period.
- Verified UDP statistics                               : [WARNING]
- Verifying RAW statistics
- Verified RAW statistics                               : [OK]

- Verifying RIB Status
- Verified RIB Status                                   : [OK]
- Verifying CEF Status
- Verified CEF Status                                   : [OK]
- Verifying CEF Consistency Status
- Verified CEF Consistency Status                       : [OK]
- Verifying BGP Status
- Verified BGP Status                                   : [OK]
- Verifying ISIS Status
- Verified ISIS Status                                  : [OK]
- Verifying OSPF Status
- Verified OSPF Status                                  : [OK]

- Verifying Syslog Messages
- Verified Syslog Messages                              : [OK]

System may not be stable. Please look into WARNING messages.
```

This table describes the significant fields shown in the display.

Table 1: show system verify Field Descriptions

Field	Description
Type	Type of memory

Field	Description
Initial	Initial usage determined when the command is run with the **start** keyword
Current	Current usage
Application	Memory used for applications
Available	Memory available for applications
Physical	Total physical memory
nodes	Devices in the system such as linecards, route processors, fabric cards, and so forth
blocked processes	Number of blocked processes on the router
aborted processes	Number of terminated processes on the router
crashed processes	Number of crashed processes on the router
LC Status on Router	Linecard status
QNET Status on router	Internal communications protocol status
GSP Fabric Status on router	Internal communications protocol status
GSP Ethernet Status on router	Internal communications protocol status
POS Interface Status on router	Packet-over-SONET status
Protocol	Protocol on the interface
IP address	IP Address of the interface
Encapsulation	Encapsulation method used on the interface
MTU	Maximum Transmission Units for the interface
Keep alive	Keep alives messages on the interface
Packets Input	Total number packets input to the interface
Bytes Input	Total number of bytes input to the interface
Packets Output	Total number of packets output by the interface
Byte Output	Total number of bytes output by the interface
TenGigE interface Status on router	10 Gigabit Ethernet interface status
TCP statistics on router	Transmission Control Protocol statistics
UDP statistics on router	User Datagram Protocol statistics
RAW statistics on router	RAW statistics

Field	Description
PCBs	Protocol Control Blocks
RIB Status on router	Routing Information Base status
CEF Status on node.....	Cisco Express Forwarding status
CEF Consistency Status on router	Cisco Express Forwarding consistency status
BGP Status on router	Border Gateway Protocol status
neighbors	Number of BGP neighbors
established	Number of BGP neighbors in ‘established’ state
ISIS Status on router	Intermediate System-to-Intermediate System status
up	Number of ISIS links up
failed	Number of failed ISIS links
init	Initial number of ISIS links
OSPF Status on router	Open Shortest Path First status
interfaces	Number of interfaces configured in OSPF
interfaces_up	Number of interfaces configured in OSPF that are in the ‘up’ state
virtual_int	Number of virtual interfaces
neighbors	Number of OSPF neighbors configured
neighbors_adj	Number of OSPF configured neighbors that are ‘adjacent’
Syslog Messages on router	Number of syslog messages

show tech-support

To automatically run **show** commands that display system information, use the **show tech-support** command in the EXEC mode.

show tech-support [**password**] {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]} [**location** *node-id*]

Syntax Description

password	(Optional) Leaves passwords and other security information in the output. If not used, passwords and other security-sensitive information in the output are replaced with the label "<removed>".
file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

The command output is not compressed.

Passwords and other security information are not displayed.

Command Modes

Admin Configuration mode

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support** command:

- **show running-config**
- **show version**
- **show interfaces**
- **show arm summary**
- **show arm conflicts**
- **show install**
- **show filesystem**
- **dir location all: pwd = disk0:**
- **dir location all: pwd = bootflash:**
- **run top_procs**
- **show processes aborts location all**
- **show processes blocked location all**
- **show placement nodes all**
- **show placement policy program all**
- **show memory summary location all**
- **show lpts ifib brief**
- **show im database all**
- **run gsp_show**
- **show context all location all**
- **show redundancy**
- **show dsc all**
- **show lr all**
- **show ipv4 traffic**
- **show ipv6 traffic**

- **show logging**
- **show inventory**
- **show packet-memory**
- **show packet-memory corrupt**
- **show packet-memory failures**
- **show platform**
- **show led**
- **show buffer reserved-memory**
- **show controllers fabricq eio links all**
- **show controllers pse eio links all**
- **show controllers plim asic pla eio links all**
- **show controllers fia eio links all**
- **show controllers cpuctrl summary**
- **admin show controllers fabric plane all**
- **admin show controllers fabric plane all stat**
- **admin show controllers fabric sfe fabricq all detail**
- **admin show controllers fabric sfe ingressq all detail**
- **admin show controllers fabric sfe s1 all detail**
- **admin show controllers fabric sfe s2 all detail**
- **admin show controllers fabric sfe s3 all detail**
- **show environment all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read

show tech-support aps

To automatically run **show** commands that display debugging information related to automatic protection switching (APS), use the **show tech-support aps** command in theEXEC mode. This command collects APS traces and sonet local traces across all locations and also **show controller** and **show aps** commands for all ports and groups.

show tech-support aps { file *send-to* [**background | compressed | uncompressed]**} [**location** *node-id*][**rack** *rack-id*][{**show-only**}]

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **lcdisk0:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
show-only	(Optional) Displays the show commands with no trace for APS debugging.
rack *rack-id*	(Optional) Specifies the rack.
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support aps** command to run **show** commands that display APS debugging information. This command generates information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

Task ID

Task ID	Operations
basic-services	read

Examples

The following example shows a truncated output of the **show tech-support aps** command:

```
RP/0/RP0/CPU0:router# show tech-support aps show-only terminal

------------------------------------------------------------------------------

                                show tech-support aps

------------------------------------------------------------------------------


---------------------------------- show aps ----------------------------------

no aps group found


------------------------------ show aps agents -------------------------------

APS shows Agent: sysdb_datalist failed: ('sysdb' detected the 'warning' conditi)

--------------------------- show controller sonet * --------------------------

Port SONET0/6/0/0:

Status: Up
```

```
Loopback: None

SECTION
  LOF = 0          LOS    = 1                            BIP(B1) = 0
LINE
  AIS = 0          RDI    = 1          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 1          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P11_CRS-4
  Remote interface: POS0/2/0/0
  Remote IP addr  : 10.111.4.11

APS
No APS Group Configured
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC3 SR-1/STM1 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0160 mW, -18.0 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/0/1:

Status: Up

Loopback: None

SECTION
  LOF = 0          LOS    = 1                            BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
```

```
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P2_CRS-8
  Remote interface: POS0/6/0/1
  Remote IP addr  : 10.12.8.2

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC3 SR-1/STM1 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0223 mW, -16.5 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/0/2:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
```

```
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x6D (109)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x2 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0xe  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/0/3:

Status: Up

Loopback: None

SECTION
  LOF = 0          LOS    = 0                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0         NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
```

```
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : PE21_C12406
  Remote interface: POS0/2/0/3
  Remote IP addr  : 10.121.4.21

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC3 SR-1/STM1 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0206 mW, -16.9 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/0:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0         NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xFF (255)   C2_tx = 0x16 (22) / Scrambling Derived
```

```
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/4/1:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                            BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xFF (255)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
```

```
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/4/2:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0         NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xEF (239)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6
```

```
  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/4/3:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0         NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xFF (255)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported
```

```
Port SONET0/6/4/4:

Status: Up

Loopback: None

SECTION
  LOF = 0          LOS    = 0                             BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0           BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0           BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0           NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P4_C12810
  Remote interface: POS0/3
  Remote IP addr  : 10.14.4.4

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): F1/F   Remote Tx(K1/K2): 00/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC12 SR-1/STM4 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0184 mW, -17.4 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/5:

Status: Up

Loopback: None
```

```
SECTION
  LOF = 0          LOS    = 1                            BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P2_CRS-8
  Remote interface: POS0/6/4/5
  Remote IP addr  : 10.12.4.2

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC12 SR-1/STM4 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0193 mW, -17.1 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/6:

Status: Up

Loopback: None

SECTION
  LOF = 1          LOS    = 0                            BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
```

```
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P3_C12008
  Remote interface: POS5/2
  Remote IP addr  : 10.13.4.3

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 00/0   Remote Tx(K1/K2): 00/0


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: OC12 SR-1/STM4 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0142 mW, -18.5 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/7:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1                           BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0         BIP(B3) = 0
    LOP = 0          NEWPTR = 0          PSE  = 0          NSE     = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear:  10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear:  10000 ms
Last clearing of "show controllers SONET" counters never
```

```
Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xF7 (247)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0  S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Protect  Channel 0   DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2):  1/    Remote Tx(K1/K2):  1/


BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) internal (configured)
  Rx S1: 0x0  Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

------------------------------------------------------------------------------

                        show tech-support aps complete

------------------------------------------------------------------------------
```

show tech-support asic

To save a snapshot of ASIC information specific to ASIC debugging, use the **show tech-support asic** command in Admin Configuration mode.

show tech-support asic {*name* | **all** | **cpuctrl** | **fabricq** | **ingressq** | **pse**} {**directory** *path* | **instance** *instance* **directory** *path*} [**location** *node-id*]

Syntax Description

name	ASIC name.
all	Specifies all ASICs.
cpuctrl	Specifies CPU controller ASICs.
fabricq	Specifies fabric queue ASICs.
ingressq	Specifies ingress queue ASICs.
pse	Specifies power sourcing equipment ASICs.
directory	Directory to save the ASIC snapshot in.
path	Path of the directory.
instance	Specifies an ASIC instance.
instance	ASIC instance. Range is 0 to 8.
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Admin Configuration mode

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Use the **show tech-support asic** command to save an ASIC snapshot. This command generates ASIC information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support ASIC** command:

- **show hfr**
- **show controllers ingressq statistics location**
- **show controllers ingressq block fqm queues location**
- **show asic-errors ingressq 0 all location**
- **show controllers ingressq block brm location**
- **show controllers ingressq block brm aggrbarr location**
- **show controllers ingressq fabric detail location**
- **show controllers ingressq fabric links location**
- **show controllers ingressq fabric pla location**
- **show controllers ingressq eio links all location**
- **show controllers ingressq interfaces all location**
- **show controllers ingressq vports all location**
- **show controllers ingressq queues all location**
- **show controllers ingressq block ssm bpmem 0 location**
- **show controllers asic sprayer in** *nn* **location | exclude** *nn*
- **show controllers fabricq fabric-backpressure location**
- **show controllers fabricq link-info all location**
- **show controllers cpuctrl clients cdma ingressq active location**
- **show controllers cpuctrl clients cdma ingressq detail location**
- **show asic-errors pse 0 all location**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
admin	read

Examples

The following example shows some of the **show tech-support asic** command output:

```
RP/0/RP0/CPU0:router(admin)# show tech-support asic all inst 0 dir net/node0_RP0_CPU0/
harddisk:/asic_snapshots/

results in following files being created with contents..
# pwd
/net/node0_RP0_CPU0/harddisk:/asic_snapshots
# ls -lrt
total 980
.
.
.
```

show tech-support bcdl

To automatically run **show** commands that display information specific to bulk content downloader (BCDL) debugging, use the **show tech-support bcdl** command in EXEC mode.

show tech-support bcdl [*bcdl-group*]
{ file *send-to* [**background | compressed | uncompressed]**} [**location** *node-id*][**rack** *rack-id*]

Syntax Description

bcdl-group	(Optional) Name of the BCDL group.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack *rack-id*	(Optional) Specifies a list of racks.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support bcdl** command to run **show** commands that display information specific to BCDL debugging. The BCDL is used to pass routing information from the Routing Information Base (RIB) to the linecards for Forwarding Information Base (FIB) processing. BCDL also allows Multiprotocol Label Switching (MPLS) to send label information to the FIB and allows Local Packet Transport Services (LPTS) to send information to the linecard processes.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support bcdl** command:

- **show bcdl**
- **show bcdl consumers**
- **show bcdl tables**
- **show process bcdl_agent**
- **show bcdl trace location all**

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read
sysmgr	read

show tech-support bundles

To automatically run **show** commands that display information specific to bundle debugging, use the **show tech-support bundles** command in EXEC mode.

show tech-support bundles { file *send-to* [**background | compressed | uncompressed]** }

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **compactflasha:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support bundles** command for 802.3ad link bundles. This command is used to locate any issues related to bundling.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support cef

To automatically run **show** commands that display information specific to Cisco Express Forwarding (CEF) debugging, use the **show tech-support cef** command in EXEC mode.

show tech-support cef
{ file *send-to* [**background | compressed | uncompressed]**} |
[{**ipv4** | **ipv6** | **mpls**}] [{**A . B . C . D** | **A . B . C . D / length** | **detail** | **file** | **platform** | **location** | **rack**}]
| [location *node-id*]
| [rack*rack-id*]
| [vrf*vrf-name*]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	(Optional) Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
vrf	(Optional) Specifies a VPN routing and forwarding (VRF) instance.
vrf-name	(Optional) Name of a VRF.
ipv4	(Optional) Specifies IPv4 CEF information.
ipv6	(Optional) Specifies IPv6 CEF information.
mpls	(Optional) Specifies Multiprotocol Label Switching CEF information.
A.B.C.D	(Optional) Specifies IPv4 Prefix entries.
A.B.C.D/length	(Optional) Specifies IPv4 Prefix mask.

detail	(Optional) Specifies detailed CEF debugging information.
brief	(Optional) Specifies a brief CEF debugging information.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Specifies a list of racks.
platform	(Optional) Specifies platform CEF related logs.

Command Default

IPv4 is the default.

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support cef** command to run **show** commands that display information specific to CEF debugging. This command is used to locate any issues related to the Forwarding Information Base (FIB) which is more commonly referred to as Cisco Express Forwarding (CEF). This command generates CEF debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support cef** command:

- show version
- show running
- **show route** {**ipv4** | **ipv6**} **unicast**
- **show proc blocked**

- **show cef** {**ipv4** | **ipv6** | **mpls**} **exceptions**
- **show cef** {**ipv4** | **ipv6** | **mpls**} **drop**
- **show ipv4 interface brief**
- **show cef** {**ipv4** | **ipv6**} **summary**
- **show cef** {**ipv4** | **ipv6** | **mpls**} **interface**
- show cef ipv4 non-recursive
- **show cef** {**ipv4** | **ipv6**}
- **show cef** {**ipv4** | **ipv6** | **mpls**} **adjacency**
- **show mpls forwarding** (if the **mpls** keyword is specified)

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read
cef	read

show tech-support cfgmgr

To automatically run **show** commands that display information to gather information about the configuration manager, use the **show tech-support cfgmgr** command in EXEC mode.

show tech-support cfgmgr [**rack**] [**location** *node-id*] **[file** *send-to* [**background**] [{**compressed** | **uncompressed**}]
]

Syntax Description

rack	Specifies that the command output for a rack.
location *node-id*	Specifies a node. The *node-id* argument is entered in the rack/slot/module notation.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support cfgmgr** command to gather information about the configuration manager. This command is used to locate any issues in regards to executing configuration commands or problems.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support chdlc

To automatically run **show** commands that display debugging information related to Cisco high-level data link control (CHDLC) protocol, use the **show tech-support chdlc** command in the EXEC mode.

show tech-support chdlc [**file** *send-to*] | [**interface** *type interface-path-id*] |[**location** *node-id*] |[**rack**] | [**slow**[**file** | **interface** | **terminal**{**location** | **all** | **page**}]]

Syntax Description

file	(Optional) Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
interface	(Optional) Displays information about a specific interface.
type interface-path-id	Interface type. For more information, use the question mark (?) online help function. *interface-path-id* refers to physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently the router. For more information about the syntax for the router, use the question mark (?) online help function.
slow	(Optional) Displays the debugging output of chdlc.
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays a list of racks.
terminal	Displays the command output on the terminal.

page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the Ctrl-C keys to stop the command output.

Command Default

None.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support chdlc** command to run **show** commands that display CHDLC debugging information. This command generates information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example how to run the **show tech-support chdlc** command on the router:

```
RP/0/RP0/CPU0:router# show tech-support chdlc interface gigabitEthernet 0/6/5/0
```

show tech-support control-ethernet

To automatically run **show** commands that display information specific to control Ethernet debugging, use the **show tech-support control-ethernet** command in EXEC mode.

show tech-support control-ethernet [**fast**] [**location** *node-id*] {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}

Syntax Description

fast	(Optional) Collects the output simultaneously from multiple line cards ina multi-chassis router.
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
terminal	Displays the command output on the terminal.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Default

The command output is not compressed.

Command Modes EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support control-ethernet** command to run **show** commands that display information specific to control Ethernet debugging. This command is used to display information specific to Ethernet interface issues. This command generates control Ethernet information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support control-ethernet** command:

- **show version**
- **show controller fabric connectivity all**
- **show controller switch 0 ports** *node-id*
- **show controller switch 1 ports** *node-id*
- **show controller switch 0 statistics** *node-id*
- **show controller switch 1 statistics** *node-id*
- **show controller switch udld** *node-id*
- **show controller switch stp** *node-id*
- **show controller switch inter-rack ports all** *node-id*
- **show controller switch inter-rack statistics brief all** *node-id*
- **show controller switch inter-rack statistics detail all** *node-id*
- **show controller switch inter-rack udld all** *node-id*
- **show controller switch inter-rack stp all** *node-id*
- **show controller backplane ethernet detail** *node-id*
- **show controller backplane ethernet trace** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

The **show tech-support control-ethernet** command also generates log files which are not listed. See the command output for log file information.

Task ID

Task ID	Operations
admin	read

Examples

The following example shows a truncated version of the **show tech-support control-ethernet** command output:

```
RP/0/RP0/CPU0:router(admin)#show tech-support control-ethernet terminal page

 Number of nodes 13

Gathering required commands for show tech control-ethernet

Finding available nodes in the system

Node - 0/1/CPU0

Node - 0/1/SP

Node - 0/4/CPU0

Node - 0/4/CPU1

Node - 0/4/SP

Node - 0/6/CPU0

Node - 0/6/SP

Node - 0/
RP0

/CPU0
Node - 0/
RP1

/CPU0

Node - 0/SM0/SP

Node - 0/SM1/SP

Node - 0/SM2/SP

Node - 0/SM3/SP


------------------------------------------------------------------------------

show tech-support control-ethernet

------------------------------------------------------------------------------


------------------- show version --------------------------------

Cisco IOS XR Software, Version 3.9.0.20I[DT_IMAGE]
Copyright (c) 2009 by Cisco Systems, Inc.
```

```
ROM: System Bootstrap, Version 1.51(20080807:092259) [CRS-1 ROMMON],

P2_CRS-8 uptime is 1 day, 18 hours, 10 minutes
System image file is "bootflash:disk0/hfr-os-mbi-3.8.0.20I/mbihfr-rp.vm"

cisco CRS-8/S (7457) processor with 4194304K bytes of memory.
7457 processor at 1197Mhz, Revision 1.2

4 Management Ethernet
16 GigabitEthernet
20 SONET/SDH
20 Packet over SONET/SDH
1019k bytes of non-volatile configuration memory.
1000592k bytes of disk0: (Sector size 512 bytes).
1000640k bytes of disk1: (Sector size 512 bytes).

Boot device on node 0/1/SP is bootflash:
Package active on node 0/1/SP:
hfr-pagent, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-pagent-3.8.0.20I
Built on Wed Oct 29 17:24:33 DST 2008
By iox13.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-fpd, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fpd-3.8.0.20I
Built on Wed Oct 29 17:02:19 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-diags, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-diags-3.8.0.20I
Built on Wed Oct 29 17:02:01 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-admin, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-admin-3.8.0.20I
Built on Wed Oct 29 16:08:13 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-base, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-base-3.8.0.20I
Built on Wed Oct 29 16:07:35 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-os-mbi, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-os-mbi-3.8.0.20I
Built on Wed Oct 29 15:45:48 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

Configuration register on node 0/1/CPU0 is 0x102
Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
hfr-services, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-services-3.8.0I
Built on Wed Oct 29 17:03:08 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-pagent, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-pagent-3.8.0.20I
Built on Wed Oct 29 17:24:33 DST 2008
By iox13.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-fpd, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fpd-3.8.0.20I
Built on Wed Oct 29 17:02:19 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-diags, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-diags-3.8.0.20I
Built on Wed Oct 29 17:02:01 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-mcast, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-mcast-3.8.0.20I
Built on Wed Oct 29 18:18:37 DST 2008
By iox22.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0
```

```
hfr-mpls, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-mpls-3.8.0.20I
Built on Wed Oct 29 18:18:25 DST 2008
By iox22.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-lc, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-lc-3.8.0.20I
Built on Wed Oct 29 16:18:36 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

hfr-fwdg, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fwdg-3.8.0.20I
Built on Wed Oct 29 16:13:27 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/wor0

--More--
```

show tech-support custom source-file

To automatically run a customised list of **show** commands specified in a text file, use the **show tech-support custom source-file** command in the EXEC mode.

showtech-supportcustom[**source-file**]*file-location*

Syntax Description

custom	Executes the general health check commands specified in the *general.tech* file and collects debugging information. The general health check command list (*general.tech*) is present in the default directory.
source-file	(Optional) Executes customised list of **show** commands specified in a text file and collects debugging information. The source file includes all diagnostics commands from EXEC and sys-admin mode.
file-location	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **rootfs:** *filename* • **tftp:** *filename*

Command Default

The command output is compressed.

Passwords and other security information are not displayed.

Command Modes

Admin Configuration mode

EXEC mode

Command History

Release	Modification
Release 6.3.3	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read

The following example shows the output of the **show tech-support custom source-file** command:

```
RP/0/RP0/CPU0:#show tech-support custom source-file disk0:cli.dat
Mon Apr 30 12:11:41.831 UTC
++ Show tech start time: 2018-Apr-30.121148.UTC ++
Mon Apr 30 12:11:49 UTC 2018 Waiting for gathering to complete
...................Mon Apr 30 12:12:55 UTC 2018 Waiting for Sysadmin show tech-support
collection
..........Mon Apr 30 12:19:55 UTC 2018 Please collect Admin show tech-support ctrace in
addition to any sysadmin show-tech-support collection

Mon Apr 30 12:19:56 UTC 2018 Compressing show tech output
Show tech output available at 0/RP0/CPU0 :
/harddisk:/showtech/showtech-custom-2018-Apr-30.121148.UTC.tgz
++ Show tech end time: 2018-Apr-30.122001.UTC ++
```

The following example shows the output of the **show tech-support custom** command:

```
RP/0/RP0/CPU0#show tech-support custom
Mon Apr 30 12:00:17.780 UTC
++ Show tech start time: 2018-Apr-30.120019.UTC ++
Mon Apr 30 12:00:20 UTC 2018 Waiting for gathering to complete
.....................................................................................
Mon Apr 30 12:05:40 UTC 2018 Compressing show tech output
Show tech output available at 0/RP0/CPU0 :
/harddisk:/showtech/showtech-custom-2018-Apr-30.120019.UTC.tgz
++ Show tech end time: 2018-Apr-30.120541.UTC ++
```

When you execute the **show tech-support custom** command, the general health check commands specified in the *general.tech* file are executed.

show tech-support dsc

To automatically run **show** commands that display information specific to designated shelf controller (DSC) debugging, use the **show tech-support dsc** command in Admin EXEC mode.

show tech-support dsc [**location** *node-id*] {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}

Syntax Description

location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
terminal	Displays the command output on the terminal.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following are valid options: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Default

The command output is not compressed.

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support dsc** command to run **show** commands that display information specific to DSC debugging. This command generates DSC information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support dsc** command:

- **show dsc all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
admin	read

Examples

The following example shows some of the **show tech-support dsc** command output:

```
RP/0/RP0/CPU0:router(admin)#show tech-support dsc terminal page

------------------------------------------------------------------------------

    show tech-support dsc for node node0_RP0_CPU0 from node node0_RP0_CPU0

------------------------------------------------------------------------------


------------------------------------------------------------------------------

                          Displaying DSC information

------------------------------------------------------------------------------
```

```
----------------- Displaying DSC attach_process on this node ------------------


-------------------- run attach_process -p 110638 -i 1 -S ---------------------

Attaching to process pid = 110638 (pkg/bin/dsc)
No tid specified, following all threads

Iteration 1 of 1
------------------------------

Current process = "pkg/bin/dsc", PID = 110638 TID = 1

trace_back: #0 0xfc177518 [MsgReceivev]
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0x482005e8 [<N/A>]
trace_back: #6 0x482012cc [<N/A>]

ENDOFSTACKTRACE


Current process = "pkg/bin/dsc", PID = 110638 TID = 2

trace_back: #0 0xfc177518 [MsgReceivev]
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0xfc6368d4 [chk_evm_thread]

ENDOFSTACKTRACE


Current process = "pkg/bin/dsc", PID = 110638 TID = 4

trace_back: #0 0xfc177518 [MsgReceivev]
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0x48200f34 [<N/A>]

ENDOFSTACKTRACE


Current process = "pkg/bin/dsc", PID = 110638 TID = 5

trace_back: #0 0xfc177518 [MsgReceivev]
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0x48200ddc [<N/A>]

ENDOFSTACKTRACE


Current process = "pkg/bin/dsc", PID = 110638 TID = 6

trace_back: #0 0xfc177518 [MsgReceivev]
```

```
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0x48200528 [<N/A>]

ENDOFSTACKTRACE


--------------------------- Displaying show dsc all ---------------------------


---------------------------- run dsc_show_table -a ----------------------------

NODE           ROLE        PRIORITY      TBEACON   PRESENT  MIGRATION
=========================================================================
0/RP0/CPU0     DSC         DEFAULT       300       YES      ENABLED
-------------------------------------------------------------------------
0/RP1/CPU0     BACKUP      DEFAULT       300       YES      ENABLED
-------------------------------------------------------------------------
0/4/CPU0       NON-DSC     65            300       YES      ENABLED
-------------------------------------------------------------------------
0/4/CPU1       NON-DSC     66            300       YES      ENABLED
-------------------------------------------------------------------------


-------------------------- Displaying Rack SerialIDs --------------------------


---------------------------- run dsc_show_table -s ----------------------------

NODE           SERIAL ID
==================================
0/RP0/CPU0     TBA09370035
----------------------------------
0/RP1/CPU0     TBA09370035
----------------------------------
0/4/CPU0       TBA09370035
----------------------------------
0/4/CPU1       TBA09370035
----------------------------------


--------------------- Displaying DSC process on all nodes ---------------------


---------------------- run sysmgr_show -o -A -p dsc -n 513 ----------------------
                  Job Id: 155
                     PID: 110638
         Executable path: /disk0/hfr-admin-3.8.0/bin/dsc
              Instance #: 1
              Version ID: 00.00.0000
                 Respawn: ON
           Respawn count: 1
  Max. spawns per minute: 12
            Last started: Fri Mar 16 14:56:35 2007
           Process state: Run
           Package state: Normal
                    core: COPY
                Max. core: 0
                   Level: 40
               Mandatory: ON
            MaintModeProc: ON
```

```
            startup_path: /pkg/startup/dsc.startup
                   Ready: 4.382s
         Process cpu time: 891.318 user, 1328.561 kernel, 2219.879 total
JID    TID  Stack pri state         TimeInState       HR:MM:SS:MSEC NAME
155    1      52K  10 Receive         0:00:52:0856    0:00:00:0176 dsc
155    2      52K  10 Receive       326:49:44:0414    0:00:00:0001 dsc
155    4      52K  10 Receive         0:00:00:0083    0:00:01:0127 dsc
155    5      52K  10 Receive         0:00:00:0643    0:00:00:0019 dsc
155    6      52K  55 Receive         0:00:00:0060    0:14:49:0966 dsc
.
.
.
```

show tech-support ethernet

To automatically run **show** commands that display information specific to ethernet debugging, use the **show tech-support ethernet** command in EXEC mode.

show tech-support ethernet[controllers[**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]]] | [**interface** *interface-type interface-instance*] | [**protocols**]

Syntax Description

controllers	Collects the L1 Ethernet controller related information and saves to disk.
file	(Optional) Specifies that the command output is saved to a specified file.
sent-to	(Optional) Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
interface	(Optional) Collects the status and configuration information about a specific interface.
interface-type	Identifies a physical interface or a virtual interface. **Note** Use the **show interfaces** command to see a list of all possible interfaces currently configured on the router.
interface-instance	Specifies the interface instance. The argument *interface-instance* is expressed in the rack/slot/module notation.
protocols	(Optional) Specifies the interest for ethernet protocols.

Command Default

IPv4 is the default.

The command output is compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support ethernet** command to run **show** commands that display information specific to VLAN and ethernet infrastructure debugging. This command generates ethernet debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support ethernet** command:

- **show ethernet controller trace**
- **show controllers oper**
- **show controllers phy**
- **show icpe-internal local controller odu-group trace location 0/1/CPU0**
- **show icpe-internal local controller odu-group db location 0/1/CPU0**
- **show process odu_group_ma**
- **show process odu_group_ea**
- **show process blocked**
- **show context**

The following show commands run automatically when you run the show tech-support ethernet command per node:

- **show process blocked**
- **show context**
- **show controllers oper**
- **show controllers bert**
- **show controllers stats**
- **show controllers control**
- **show controllers mac**
- **show controllers internal**
- **show controllers phy**

- **show controllers xgxs**
- **show controllers regs**
- **show ethernet driver trace**
- **show ethernet infra trace**
- **show processes ether_caps_partner**
- **show processes ether_sock**
- **show processes vlan_ma**
- **show processes vlan ea**
- **show ethernet infra internal ether-ma global**
- **show ethernet infra internal ether-ma trunks**
- **show ethernet infra internal vlan-ma global**
- **show ethernet infra internal vlan-ma trunks**
- **show ethernet infra internal vlan-ma subs**
- **show ethernet infra internal ea global**
- **show ethernet infra internal ea trunks**
- **show ethernet infra internal ea subs**
- **show ethernet driver internal all driver-id all**
- **show ethernet driver api-stats location 0/0/CPU0**
- **show ethernet driver api-stats detail all location 0/0/CPU0**
- **show ethernet trace hardware spa**
- **show ethernet trace hardware plim location 0/0/CPU0**
- **show ethernet trace hardware plim location 0/1/CPU0**
- **show ethernet trace hardware plim location 0/2/CPU0**
- **show ethernet ring g8032 status location 0/0/CPU0**
- **show ethernet ring g8032 trace**
- **show process eth_intf_ea**
- **show process eth_intf_ma**
- **show ethernet v-ether db location 0/0/CPU0**
- **show ethernet v-ether trace location 0/0/CPU0**
- **show ethernet cfm trace detail location all**
- **show ethernet cfm servicesshow ethernet cfm interfaces status**
- **show ethernet cfm configuration-errors**
- **show ethernet cfm nv satellite-fabrics**
- **show ethernet cfm nv satellite-links**
- **show ethernet cfm nv host-meps**
- **show ethernet cfm nv satellites**
- **show ethernet cfm local maintenance-points**
- **show ethernet cfm local meps**
- **show ethernet cfm local meps verbose**
- **show ethernet cfm peer meps**
- **show ethernet cfm peer meps detail**
- **show ethernet cfm traceroute-cache**
- **show ethernet cfm traceroute-cache detail**
- **show ethernet cfm ccm-learning-database**
- **show ethernet cfm interface statistics**

- **show ethernet cfm interface ais**
- **show ethernet cfm summary**
- **show ethernet oam trace verbose location all**
- **show ethernet oam trace verbose global-mgr location all**
- **show ethernet oam configuration**
- **show ethernet oam discovery**
- **show ethernet oam interfaces**
- **show ethernet oam statistics**
- **show error-disable**
- **show ethernet loopback trace location all**
- **show ethernet loopback permitted**
- **show ethernet loopback active**
- **show ethernet sla configuration-errors**
- **show ethernet sla operations**
- **show ethernet sla statistics**
- **show ethernet sla statistics detail**
- **show ethernet sla support**
- **show spp offload lib trace location all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support fabric

To automatically run **show** commands that display information specific to fabric debugging, use the **show tech-support fabric** command in Admin EXEC mode.

show tech-support fabric {**fabric-snapshot** | **multicast** [{**brief** | **detail**}] | **summary** | **traffic** [{**brief** | **detail**}]} [**location** *node-id* [**include-fabric-cards**] [**include-rp**]] [{**email** | **page** | **file** *send-to*}]

Syntax Description

fabric-snapshot	Runs the fabric snapshot script which generates comprehensive data on the instantaneous state of the fabric.
multicast	Specifies fabric multicast information.
brief	(Optional) Displays brief information.
detail	(Optional) Displays detailed information.
summary	Specifies fabric summary information.
traffic	Specifies fabric traffic information.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
include-fabric-cards	(Optional) Specifies fabric card information in addition to the fabric information. This option is available when the **fabric-snapshot** keyword is used.
include-rp	(Optional) Specifies route processor information in addition to the fabric information. This option is available when the **fabric-snapshot** keyword is used.
email	(Optional) Specifies that the command output is sent through email. The output is copied to /disk0:/fabric_multicast.log. **Note** To use the **email** keyword, you must have the SMTP server and domain name and the ability to connect a TCP socket to the specified SMTP server. The **domain ipv4 host** *host-name v4address1* command must be configured to use the server lookup.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	(Optional) Specifies that the command output is saved to a specified file.

sent-to	(Optional) Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*

Command Default

The command output is not compressed.

Command Modes

Admin EXEC mode

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support fabric** command to run **show** commands that display information specific to fabric debugging. This command generates fabric information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support fabric multicast** command:

- **show controllers fabric fgid stat all detail**
- **show controllers fabric fgid info**
- **show process fgid_allocator**
- **show process fgid_aggregator**
- **show process fgid_server**
- **show process fgid_allocator**

The following **show** commands run automatically when you run the **show tech-support fabric traffic** command:

- **show controllers fabric plane all detail**
- **show controllers fabric plane all stat brief**
- **show controllers fabric plane all stat detail**
- **show controllers fabric link port**
- **show controller fabricq stat**
- **show controllers fabricq queues**
- **show controllers fabricq eio links all**
- **show controller ingressq stat**
- **show controller ingressq queue all**
- **show controller ingressq fabric pla**
- **show control ingressq block ssm bpmem 0**
- **show controllers ingressq block fqm queue**
- **show controllers ingressq vports all**
- **show controllers ingressq interfaces all**
- **show controllers ingressq eio links all**
- **show controller fia rxslice all uq all channel all**
- **show controllers cpuctrl devices ingressq pdma queue all act**
- **show controllers cpuctrl devices egressq pdma queue all act**
- **show controllers cpuctrl devices fabricq pdma queue all act**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
admin	read

show tech-support gsp

To automatically run **show** commands that display information specific to Gigabit Switch Platform (GSP) debugging, use the **show tech-support gsp** command in EXEC mode.

show tech-support gsp [{**client** | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **group** { *group-id* | *group-name* } | **rack** | **location** *node-id*}]

Syntax Description

client	(Optional) Displays the client tech-support information.
group	(Optional) Displays the group tech-support information by *group-id* or *group-name*.
rack	(Optional) Displays the number of racks
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
terminal	Displays the command output on the terminal.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Default The command output is not compressed.

Command Modes EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support gsp** command to run **show** commands that display information specific to GSP debugging. GSP is a common IPC utilized in Cisco IOS XR software to communicate between nodes. This command would be used to determine if there are any issues with GSP communication between nodes. This command generates GSP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support gsp** command:

- **show gsp group addresses**
- **show gsp group admin addresses**
- **show gsp group lr-control addresses**
- **show gsp group gid 0**
- **show gsp group gid 1000**
- **show gsp group gid 2000**
- **show gsp memory**
- **show gsp stats client**
- **show gsp stats server jid 0**
- **show gsp trace server bootstrap location all**
- **show gsp trace server timeout slow location all**
- **show gsp trace server timeout fast location all**
- **show gsp trace server limp fast location all**
- **show gsp trace server limp slow location all**
- **show gsp trace server error api location all**

- **show gsp trace server error minor location all**
- **show gsp trace server ens location all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read
sysmgr	read

show tech-support igmp snooping

To automatically run **show** commands that display debugging information specific to igmp snooping, use the **show tech-support igmp snooping** command in the EXEC mode.

show tech-support igmp snooping [**file** *send-to*] [**terminal**]

Syntax Description

file	(Optional) Specifies that the command output is saved to a specified file.
send-to	(Optional) Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
terminal	Specifies that the command output is displayed on the terminal.
page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.

Command Default

Output is logged to the terminal screen.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates igmp snooping debug information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support igmp snooping** command:

- **show version**
- **show running-config sanitize**
- **show redundancy**
- **show logging**
- **show platform**
- **show install active detail**
- **show install committed detail**
- **show install inactive detail**
- **show pkgfs trace location all**
- **show install trace loadpath location** *node-id*
- **show install trace io location** *node-id*
- **show install trace instdir-lr location** *node-id*
- **show install trace insthelper location** *node-id*
- **show install trace notify location** *node-id*
- **show install trace replicator location** *node-id*
- **show install trace pkg location** *node-id*
- **show install trace inv location** *node-id*
- **show install trace platform location** *node-id*
- **show install trace ior location** *node-id*
- **show install trace state-file-replication location** *node-id*
- **show install trace sds location** *node-id*
- **show memory summary location** *node-id*
- **show context location** *node-id*
- **show processes memory location** *node-id*
- **show processes aborts location** *node-id*
- **show processes blocked location** *node-id*
- **show pkgfs trace location** *node-id*
- **show filesystem location** *node-id*
- **run diskinfo** (various)

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows a truncated version of the **show tech-support igmp snooping** command output:

```
RP/0/RP0/CPU0:router# show tech-support igmp snooping terminal

------------------------------------------------------------------------------

                        show tech-support igmp snooping

------------------------------------------------------------------------------


--------------------------------- show version ---------------------------------

Cisco IOS XR Software, Version 3.9.0[00]
Copyright (c) 2009 by Cisco Systems, Inc.

ROM: System Bootstrap, Version 1.1(20090521:183759) [ASR9K ROMMON],

MCAST-6 uptime is 6 days, 20 hours, 50 minutes
System image file is "bootflash:disk0/asr9k-os-mbi-3.9.0/mbiasr9k-rp.vm"

cisco ASR9K Series (MPC8641D) processor with 4194304K bytes of memory.
MPC8641D processor at 1333MHz, Revision 2.2

2 Management Ethernet
45 GigabitEthernet
219k bytes of non-volatile configuration memory.
975M bytes of compact flash card.
33994M bytes of hard disk.
1605616k bytes of disk0: (Sector size 512 bytes).
1605616k bytes of disk1: (Sector size 512 bytes).

Configuration register on node 0/RSP0/CPU0 is 0x1922
Boot device on node 0/RSP0/CPU0 is disk0:
Package active on node 0/RSP0/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
    Built on Mon Dec 14 12:38:43 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
    Built on Mon Dec 14 12:38:44 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
    Built on Mon Dec 14 13:33:02 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpls, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpls-3.9.0
    Built on Mon Dec 14 13:31:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0
```

```
asr9k-rout, V 3.9.0[00], Cisco Systems, at disk0:asr9k-rout-3.9.0
    Built on Mon Dec 14 12:38:56 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
    Built on Mon Dec 14 13:28:31 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
    Built on Mon Dec 14 12:34:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
    Built on Mon Dec 14 12:29:39 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
    Built on Mon Dec 14 12:32:17 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mbi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mbi-3.9.0
    Built on Mon Dec 14 12:12:19 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
    Built on Mon Dec 14 12:38:43 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
    Built on Mon Dec 14 12:38:44 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
    Built on Mon Dec 14 13:33:02 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpls, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpls-3.9.0
    Built on Mon Dec 14 13:31:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
    Built on Mon Dec 14 13:28:31 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
    Built on Mon Dec 14 12:34:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
    Built on Mon Dec 14 12:29:39 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
    Built on Mon Dec 14 12:32:17 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mbi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mbi-3.9.0
    Built on Mon Dec 14 12:12:19 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

Boot device on node 0/2/CPU0 is mem:
```

```
Package active on node 0/2/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
    Built on Mon Dec 14 12:38:43 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
    Built on Mon Dec 14 12:38:44 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
    Built on Mon Dec 14 13:33:02 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpls, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpls-3.9.0
    Built on Mon Dec 14 13:31:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
    Built on Mon Dec 14 13:28:31 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
    Built on Mon Dec 14 12:34:50 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
    Built on Mon Dec 14 12:29:39 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
    Built on Mon Dec 14 12:32:17 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mbi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mbi-3.9.0
    Built on Mon Dec 14 12:12:19 UTC 2009
    By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0


---------------------- show running-config igmp snooping ----------------------
igmp snooping profile prof1
 ttl-check disable
 router-alert-check disable
!


----------------- show igmp snooping summary statistics debug -----------------

  Bridge Domains:                                  1
  IGMP Snooping Bridge Domains:                    1
  Ports:                                           2
  IGMP Snooping Ports:                             1
  Mrouters:                                        0
  STP Forwarding Ports:                            0
  IGMP Groups:                                     0
    Member Ports:                                  0
  IGMP Source Groups:                              0
    Static/Include/Exclude:                    0/0/0
    Member Ports (Include/Exclude):              0/0
  Traffic Statistics (elapsed time since last cleared 6d20h):
                                  Received  Reinjected   Generated
    Messages:                            0           0           0
      IGMP General Queries:              0           0           0
      IGMP Group Specific Queries:       0           0           0
      IGMP G&S Specific Queries:         0           0           0
```

```
    IGMP V2 Reports:                      0           0           0
    IGMP V3 Reports:                      0           0           0
    IGMP V2 Leaves:                       0           0           0
    IGMP Global Leaves:                   0           -           0
    PIM Hellos:                           0           0           -
  Rx Packet Treatment:
    Packets Flooded:                                  0
    Packets Forwarded To Members:                     0
    Packets Forwarded To Mrouters:                    0
    Packets Consumed:                                 0
  Rx Errors:
    None
  Rx Other:
    None
  Tx Errors:
    None
L2FIB Statistics (elapsed time since last cleared 6d20h):
  BD Created Notifications:                           2
  BD Deleted Notifications:                           1
  EFP Added Notifications:                            9
  EFP Removed Notifications:                          2
  EFP STP Change Notifications:                       4
  BD Topology Change Notifications:                   0
  BD Added:                                           2
  BD Deleted:                                         1
  BD Profile Change:                                  0
  BD Profile Added:                                   0
  BD Profile Removed:                                 0
  BD Batch Start:                                     4
  BD Batch End:                                       4
  BD Mark:                                            0
  BD Sweep:                                           1
  EFP Added:                                          4
  EFP Deleted:                                        2
  EFP Profile Changed:                                0
  EFP Profile Unchanged:                              5
  EFP Profile Added:                                  0
  EFP Profile Removed:                                0
  EFP Oper State To Up:                               3
  EFP Oper State To Down:                             1
  EFP STP State To Forwarding:                        2
  EFP STP State To Blocked:                           0
  EFP STP State To Not Participating:                 0
  EFP Batch Start:                                   10
  EFP Batch End:                                     10
  EFP Mark:                                           0
  EFP Sweep:                                          1
  L2FIB Replay:                                       3
  Mroute Msgs Sent:                                   4
  Cfg Msgs Sent:                                      8
  BDXC Send:                                          8
  Errors:
    None
Network Statistics (elapsed time since last cleared 6d20h):
  Socket Event:                                       0
  Network Connection Open Event:                      2
  Network Connection Close Event:                     0
  Packet Event:                                       2
  Packet Event Disconnect:                            0
  Packet Event Empty:                                 0
  Packet Event Empty Watermark:                       2
  Rx IGMP Packet Attempt:                             0
  Rx IGMP Packet Success:                             0
  Rx PIM Packet Attempt:                              0
```

```
    Rx PIM Packet Success:                          0
    Tx IGMP Packet Attempt:                         0
    Tx IGMP Packet Success:                         0
    Errors:
        None
  Internal Data:
    Ltrace:         Enabled
    Error Debug:    Disabled
    Other Debug:    Disabled
    System Mac:     00:00:00:00:00:00
  Internal Statistics (elapsed time since last cleared 6d20h):
    None


---------- show igmp snooping bridge-domain detail statistics debug -----------

Bridge Domain        Profile              Act  Ver  #Ports  #Mrtrs  #Grps   #SGs
-------------        -------              ---  ---  ------  ------  -----   ----
bg:bd                prof1                  Y   --       2       0      0      0

  Profile Configured Attributes:
    System IP Address:                  0.0.0.0
    Minimum Version:                    2
    Report Suppression:                 Enabled
    Unsolicited Report Interval:        1000 (milliseconds)
    TCN Query Solicit:                  Disabled
    TCN Flood:                          Enabled
    TCN Flood Query Count:              2
    Router Alert Check:                 Disabled
    TTL Check:                          Disabled
    Internal Querier Support:           Disabled
    Querier Query Interval:             60 (seconds)
    Querier LMQ Interval:               1000 (milliseconds)
    Querier LMQ Count:                  2
    Querier Robustness:                 2
  Querier:                              Not Present
  Mrouter Ports:                        0
  STP Forwarding Ports:                 0
  Groups:                               0
    Member Ports:                       0
  V3 Source Groups:                     0
    Static/Include/Exclude:             0/0/0
    Member Ports (Include/Exclude):     0/0
  XID:                                  BD:0x0
  Creation Time:                        1d00h
  Snooping Creation Time:               1d00h
  Flood Mode:                           Disabled
  Star Star Mroute PD Data:
    Size:                               4
    Data:                               0x00 0x00 0x80 0x81
  Client L2Info:
    None
  MTU:                                  1400
  Traffic Statistics (elapsed time since last cleared 5d20h):
                                    Received  Reinjected   Generated
    Messages:                              0           0           0
      IGMP General Queries:                0           0           0
      IGMP Group Specific Queries:         0           0           0
      IGMP G&S Specific Queries:           0           0           0
      IGMP V2 Reports:                     0           0           0
      IGMP V3 Reports:                     0           0           0
      IGMP V2 Leaves:                      0           0           0
      IGMP Global Leaves:                  0           -           0
      PIM Hellos:                          0           0           -
```

```
Rx Packet Treatment:
  Packets Flooded:                                0
  Packets Forwarded To Members:                   0
  Packets Forwarded To Mrouters:                  0
  Packets Consumed:                               0
Rx Errors:
  None
Rx Other:
  None
Tx Errors:
  None
```

show tech-support install

To automatically run **show** commands that display information specific to installation information, use the **show tech-support install** command in the EXEC mode.

show tech-support install [**file** *send-to*[**background**] [{**compressed** | **uncompressed**}]] [**location** *node-id*] [**rack**]

Syntax Description

file	(Optional) Specifies that the command output is saved to a specified file.
send-to	(Optional) Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

Output is logged to the terminal screen.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced .

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support install** command to run **show** commands that display information specific to installation information. This command is useful for any problems encountered while executing install operations on the system during an install activate, install add, remove, or commit operation.This command generates installation information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support install** command:

- **show install request**
- **show version**
- **show install active summary**
- **show install committed summary**
- **show install package all detail**
- **show install log verbose**
- **show running-config sanitize**
- **show redundancy**
- **show logging**
- **show platform**
- **show install active detail**
- **show install committed detail**
- **show install inactive detail**
- **show pkgfs trace location all**
- **show install trace loadpath location** *node-id*
- **show install trace io location** *node-id*
- **show install trace instdir-lr location** *node-id*
- **show install trace insthelper location** *node-id*

- **show install trace notify location** *node-id*
- **show install trace replicator location** *node-id*
- **show install trace pkg location** *node-id*
- **show install trace inv location** *node-id*
- **show install trace platform location** *node-id*
- **show install trace ior location** *node-id*
- **show install trace state-file-replication location** *node-id*
- **show install trace sds location** *node-id*
- **show memory summary location** *node-id*
- **show context location** *node-id*
- **show processes memory location** *node-id*
- **show processes aborts location** *node-id*
- **show processes blocked location** *node-id*
- **show pkgfs trace location** *node-id*
- **show filesystem location** *node-id*
- **run diskinfo** (various)

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read
pkg-mgmt	read

show tech-support l2tp

To automatically run **show** commands that display information specific to Layer 2 Tunnel Protocol (L2TP) technical support, use the **show tech-support l2tp** command in EXEC mode.

show tech-support l2tp {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **terminal** [**page**]}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
terminal	Specifies that the command output is displayed on the terminal.
page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command collects relevant data for Layer 2 tunneling protocol-related issues that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows some of the **show tech-support l2tp** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support l2tp terminal page

------------------------------------------------------------------------------

          show tech-support l2tp (Detailed output with event traces)

------------------------------------------------------------------------------


-------------------------- show l2tp session detail --------------------------


-------------------------- show l2tp tunnel detail --------------------------


----------------------------- show l2tp internal -----------------------------
L2TP Internal information:
  L2X information:
    Rx high water mark      : 0
    Ave msg process usecs   : 0
    Num rx messages         : 0
    Num tx messages         : 0
    Num reordered msgs      : 0
    Max reorder deviation   : 0
    Num ooo msgs            : 0
    Num rx path drops       : 0
    Num rx q overflow drops : 0
    Num buffered msgs       : 0
  L2TUN information:
```

```
    Ave msg process usecs   : 0
    Num rx messages         : 1
    Num tx messages         : 1

---------------------- show l2tp counters control tunnel ----------------------
Global L2TP tunnel control message statistics:

                XMIT      RE-XMIT         RCVD         DROP
            ==========   ==========   ==========   ==========
ZLB                  0            0            0            0
SCCRQ                0            0            0            0
SCCRP                0            0            0            0
SCCCN                0            0            0            0
StopCCN              0            0            0            0
Hello                0            0            0            0
OCRQ                 0            0            0            0
OCRP                 0            0            0            0
OCCN                 0            0            0            0
ICRQ                 0            0            0            0
ICRP                 0            0            0            0
ICCN                 0            0            0            0
CDN                  0            0            0            0
WEN                  0            0            0            0
SLI                  0            0            0            0
EXP ACK              0            0            0            0
FSQ                  0            0            0            0
FSR                  0            0            0            0
SRRQ                 0            0            0            0
SRRP                 0            0            0            0
CiscoACK             0            0            0            0
Total                0            0            0            0


-------------------- show l2tp counters control tunnel all --------------------


-------------- show l2tp counters control tunnel authentication ---------------
 L2TPv3 Tunnel Authentication Statistics:

------------ show l2tp counters control session fsm state current -------------

Current State   Count
======================
Init            -
Idle            -
Wt-Sock         -
Wt-CC           -
Proc-ICRQ       -
Wt-Rx-ICCN      -
Proc-ICCN       -
Wt-Tx-ICRQ      -
Wt-Tx-ICRP      -
Wt-Tx-ICCN      -
Wt-Rx-ICRP      -
Proc-ICRP       -
established     -
Dead            -

----------- show l2tp counters control session fsm state transition -----------

Old State                     New State

          Idle   Wt   Wt Proc   Wt Proc   Wt   Wt   Wt   Wt Proc esta Dead
 --More-- Building configuration...
```

```
              Sock   CC ICRQ   Rx ICCN   Tx   Tx   Tx   Rx ICRP
                               ICCN      ICRQ ICRP ICCN ICRP
            ============================================================
Init           -    -    -    -    -    -    -    -    -    -    -    -
Idle           -    -    -    -    -    -    -    -    -    -    -    -
Wt-Sock        -    -    -    -    -    -    -    -    -    -    -    -
Wt-CC          -    -    -    -    -    -    -    -    -    -    -    -
Proc-ICRQ      -    -    -    -    -    -    -    -    -    -    -    -
Wt-Rx-ICCN     -    -    -    -    -    -    -    -    -    -    -    -
Proc-ICCN      -    -    -    -    -    -    -    -    -    -    -    -
Wt-Tx-ICRQ     -    -    -    -    -    -    -    -    -    -    -    -
Wt-Tx-ICRP     -    -    -    -    -    -    -    -    -    -    -    -
Wt-Tx-ICCN     -    -    -    -    -    -    -    -    -    -    -    -
Wt-Rx-ICRP     -    -    -    -    -    -    -    -    -    -    -    -
Proc-ICRP      -    -    -    -    -    -    -    -    -    -    -    -
establishe     -    -    -    -    -    -    -    -    -    -    -    -
Dead           -    -    -    -    -    -    -    -    -    -    -    -

---------------- show l2tp counters control session fsm event -----------------

Event                      State event occurred in

            Idle   Wt   Wt Proc   Wt Proc   Wt   Wt   Wt   Wt Proc esta Dead
                 Sock   CC ICRQ   Rx ICCN   Tx   Tx   Tx   Rx ICRP
                               ICCN      ICRQ ICRP ICCN ICRP
            ============================================================
Invalid        -    -    -    -    -    -    -    -    -    -    -    -
CC-Up          -    -    -    -    -    -    -    -    -    -    -    -
CC-Down        -    -    -    -    -    -    -    -    -    -    -    -
Sock-Ready     -    -    -    -    -    -    -    -    -    -    -    -
Sock-Down      -    -    -    -    -    -    -    -    -    -    -    -
Sock-Error     -    -    -    -    -    -    -    -    -    -    -    -
App-Conn       -    -    -    -    -    -    -    -    -    -    -    -
App-Disc       -    -    -    -    -    -    -    -    -    -    -    -
Local-Cont     -    -    -    -    -    -    -    -    -    -    -    -
Local-Up       -    -    -    -    -    -    -    -    -    -    -    -
Local-Down     -    -    -    -    -    -    -    -    -    -    -    -
DP-Setup       -    -    -    -    -    -    -    -    -    -    -    -
Rx-ICRQ        -    -    -    -    -    -    -    -    -    -    -    -
ICRQ-OK        -    -    -    -    -    -    -    -    -    -    -    -
ICRQ-ERR       -    -    -    -    -    -    -    -    -    -    -    -
Rx-ICRP        -    -    -    -    -    -    -    -    -    -    -    -
ICRP-OK        -    -    -    -    -    -    -    -    -    -    -    -
ICRP-ERR       -    -    -    -    -    -    -    -    -    -    -    -
Rx-ICCN        -    -    -    -    -    -    -    -    -    -    -    -
ICCN-OK        -    -    -    -    -    -    -    -    -    -    -    -
ICCN-ERR       -    -    -    -    -    -    -    -    -    -    -    -
Rx-CDN         -    -    -    -    -    -    -    -    -    -    -    -
Establishe     -    -    -    -    -    -    -    -    -    -    -    -
Shut           -    -    -    -    -    -    -    -    -    -    -    -
Destroy        -    -    -    -    -    -    -    -    -    -    -    -

--------------------------- show processes l2tp_mgr ---------------------------
                  Job Id: 263
                     PID: 405734
         Executable path: /disk0/hfr-fwdg-3.6.0.16I/bin/l2tp_mgr
              Instance #: 1
              Version ID: 00.00.0000
                 Respawn: ON
           Respawn count: 1
  Max. spawns per minute: 12
            Last started: Thu Oct 11 19:25:05 2007
           Process state: Run
           Package state: Normal
```

```
          core: TEXT SHAREDMEM MAINMEM
      Max. core: 0
          Level: 999
      Placement: ON
startup_path: /pkg/startup/l2tp.startup
```

show tech-support l2vpn

To automatically run **show** commands that display information specific to Layer 2 Virtual Private Network (L2VPN) debugging, use the **show tech-support l2vpn** command in EXEC mode.

show tech-support l2vpn {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **terminal** [**page**] [**rack**]}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
terminal	Specifies that the command output is displayed on the terminal.
page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command collects information for Layer 2 VPN related issues that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows some of the **show tech-support l2vpn** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support l2vpn terminal page

------------------------------------------------------------------------------

              show tech-support l2vpn (Detail with Event traces)

------------------------------------------------------------------------------


-------------------------------- show version --------------------------------

Cisco IOS XR Software, Version 3.6.0.16I[SIT1_IMAGE1]
Copyright (c) 2007 by Cisco Systems, Inc.

ROM: System Bootstrap, Version 1.48(20070928:224557) [CRS-1 ROMMON],

P1_CRS-8 uptime is 4 days, 20 hours, 49 minutes
System image file is "disk0:hfr-os-mbi-3.6.0.16I/mbihfr-rp.vm"

cisco CRS-8/S (7457) processor with 4194304K bytes of memory.
7457 processor at 1197Mhz, Revision 1.2

4 T3 Port controller(s)
20 Packet over SONET/SDH network interface(s)
20 SONET/SDH Port controller(s)
4 Serial network interface(s)
4 Ethernet/IEEE 802.3 interface(s)
16 GigabitEthernet/IEEE 802.3 interface(s)
1019k bytes of non-volatile configuration memory.
```

```
38079M bytes of hard disk.
1000592k bytes of ATA PCMCIA card at disk 0 (Sector size 512 bytes).
1000640k bytes of ATA PCMCIA card at disk 1 (Sector size 512 bytes).

Configuration register on node 0/1/CPU0 is 0x102
Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
    Built on Tue Oct  2 15:07:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
    Built on Tue Oct  2 15:58:47 DST 2007
    By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
    Built on Tue Oct  2 14:48:41 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
    Built on Tue Oct  2 14:48:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
    Built on Tue Oct  2 14:26:29 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpls, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpls-3.6.0.16I
    Built on Tue Oct  2 14:22:48 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
    Built on Tue Oct  2 14:02:24 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwdg, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwdg-3.6.0.16I
    Built on Tue Oct  2 13:57:12 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
    Built on Tue Oct  2 13:53:07 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
    Built on Tue Oct  2 13:51:10 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mbi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mbi-3.6.0.I
    Built on Tue Oct  2 13:28:38 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/4/CPU0 is 0x102
Boot device on node 0/4/CPU0 is disk0:
Package active on node 0/4/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
    Built on Tue Oct  2 15:07:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
    Built on Tue Oct  2 15:58:47 DST 2007
    By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
    Built on Tue Oct  2 14:48:41 DST 2007
```

```
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-doc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-doc-3.6.0.16I
    Built on Tue Oct  2 14:48:52 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
    Built on Tue Oct  2 14:48:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mgbl, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mgbl-3.6.0.16I
    Built on Tue Oct  2 14:20:33 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
    Built on Tue Oct  2 14:26:29 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpls, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpls-3.6.0.16I
    Built on Tue Oct  2 14:22:48 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-rout, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-rout-3.6.0.16I
    Built on Tue Oct  2 14:06:14 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-k9sec, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-k9sec-3.6.0.16I
    Built on Tue Oct  2 14:43:56 DST 2007
    By sjce-gf-074.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
    Built on Tue Oct  2 14:02:24 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwdg, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwdg-3.6.0.16I
    Built on Tue Oct  2 13:57:12 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
    Built on Tue Oct  2 13:53:07 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
    Built on Tue Oct  2 13:51:10 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mbi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mbi-3.6.0.I
    Built on Tue Oct  2 13:28:38 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/4/CPU1 is 0x102
Boot device on node 0/4/CPU1 is disk0:
Package active on node 0/4/CPU1:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
    Built on Tue Oct  2 15:07:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
    Built on Tue Oct  2 15:58:47 DST 2007
    By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
    Built on Tue Oct  2 14:48:41 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8
```

```
hfr-doc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-doc-3.6.0.16I
    Built on Tue Oct  2 14:48:52 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
    Built on Tue Oct  2 14:48:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mgbl, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mgbl-3.6.0.16I
    Built on Tue Oct  2 14:20:33 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
    Built on Tue Oct  2 14:26:29 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpls, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpls-3.6.0.16I
    Built on Tue Oct  2 14:22:48 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-rout, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-rout-3.6.0.16I
    Built on Tue Oct  2 14:06:14 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-k9sec, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-k9sec-3.6.0.16I
    Built on Tue Oct  2 14:43:56 DST 2007
    By sjce-gf-074.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
    Built on Tue Oct  2 14:02:24 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwdg, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwdg-3.6.0.16I
    Built on Tue Oct  2 13:57:12 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
    Built on Tue Oct  2 13:53:07 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
    Built on Tue Oct  2 13:51:10 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mbi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mbi-3.6.0.I
    Built on Tue Oct  2 13:28:38 DST 2007
    By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/6/CPU0 is 0x102
Boot device on node 0/6/CPU0 is mem:
Package active on node 0/6/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
    Built on Tue Oct  2 15:07:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
    Built on Tue Oct  2 15:58:47 DST 2007
    By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
    Built on Tue Oct  2 14:48:41 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8
```

```
hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
    Built on Tue Oct  2 14:48:32 DST 2007
    By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
    Built on Tue Oct  2 14:26:29 DST 2007
    By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8
```

show tech-support lrd

To automatically run **show** commands that display information specific to logical router daemon (LRD) debugging, use the **show tech-support lrd** command in EXEC mode.

show tech-support lrd {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **location** {*node-id* | **all**} [**rack**]}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location	(Optional) Specifies a node.
node-id	(Optional) Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support lrd** command for the LRD debugging, which controls the Secure Domain Router (SDR) architecture. The system always has at least one SDR at any time. It collects relevant information when issues arise with the SDR management within the system. This command can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows some of the **show tech-support lrd** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support lrd terminal page

------------------------------------------------------------------------------

                              show tech-support lrd

------------------------------------------------------------------------------




lrdbg 'i' getting CONFIG INFO
Starting lrdbg commands for local node.
node_name = node0_RP0_CPU0 chan_name is /net/node0_RP0_CPU0/dev/lrd_local
Local nodeid=513 Local lrname=Owner Local lrid = 0
lrdbg: Successfully connected to channel /net/node0_RP0_CPU0/dev/lrd_local

Starting lrdbg commands for node = node0_RP0_CPU0 lrid = 0

DLRSC Info for Node = node0_RP0_CPU0 Nodeid = 0x201 lrid = 0
We are the dLRSC, Backup dLRSC is 0x211

 --More--
 liblrd_dl_node_state_0.dll                  0.0
 liblrd_dl_sw_state_0.dll                    0.0
 liblrd_dl_fwd_ldr_0.dll                     0.0
```

```
 liblrd_alpha_fwd.dll                          1.0
 liblrd_envmon_fwd.dll                         1.0
 liblrd_invmgr_fwd.dll                         1.0
Inventory Info for Node = node0_RP0_CPU0 lrid = 0
Success: node_count=6, ready=1
node=0x11, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0 lr_n0
node=0x41, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_nf
node=0x42, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_nf
node=0x61, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0 lr_n0
node=0x201, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_1
node=0x211, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2 lr_1

LR name Info for Node = node0_RP0_CPU0

dSC node:         0/RP0/CPU0
standby dSC node: 0/RP1/CPU0

LRs (Configured, pre-existing) basic info:
 Name                                LRid  dLRSC         backup_dLRSC
-------------------------------------------------------------------
 Owner                               0     0/RP0/CPU0    0/RP1/CPU0

LRs (Configured, pre-existing) basic info:
Lr-Names             LRid dLRSC      StbydLRSC  Primary    Primary1   McastAddr
-------------------------------------------------------------------------------
Owner                0    0/RP0/CPU0 0/RP1/CPU0 0/RP0/CPU0 0/RP1/CPU0 0        0

Client Vector for Node = node0_RP0_CPU0
Received 23 currently connected lrd clients
 PID    op    eFLAGS    cFLAGS
_____________________________
  168027     0x1     0x4       0x3
  77863     0x11     0x204       0x1
  81963     0x10     0x200       0x0
  168024     0x2     0x0       0x0
  168026     0x2     0x0       0x0
  200800     0x1     0x4       0x1f
  204909     0x1     0x4       0xb
  209006     0x23     0x84       0xb
  385148     0x1     0x4       0x7
  385149     0x1     0x4       0x7
  381047     0x41     0x25       0x3
  381043     0x1     0x4       0x3
  381041     0x1     0x4       0x7
  397456     0x1     0x4       0x3
  397485     0x1     0x14       0x4
  397484     0x1     0x14       0x4
  397498     0x1     0x4       0x4
  405725     0x1     0x4       0x7
  405735     0x1     0x4       0x4
  405744     0x40     0x1       0x0
  434434     0x1     0x4       0x7
  434435     0x1     0x4       0x7
  434433     0x1     0x4       0x7

DLL loaded for Node = node0_RP0_CPU0
          dll name                          version
_____________________________________________
Node State Info for Node = node0_RP0_CPU0

 Type     Node        Nodeid    Prev State        Cur State         LRid  (PD c)
 ------------------------------------------------------------------------------
 LC(2)    0/1/CPU0     0x11     RUNNING_MBI(5)    RUNNING_ENA(6)     0    (5242)
 DRP(1)   0/4/CPU0     0x41     RUNNING_MBI(5)    RUNNING_ENA(6)     0    (119))
```

```
 DRP(1)    0/4/CPU1      0x42      RUNNING_MBI(5)     RUNNING_ENA(6)      0     (119))
 LC(2)     0/6/CPU0      0x61      RUNNING_MBI(5)     RUNNING_ENA(6)      0     (5242)
 RP(0)     0/RP0/CPU0    0x201     RUNNING_MBI(5)     RUNNING_ENA(6)      0     (19) )
 RP(0)     0/RP1/CPU0    0x211     PRESENT(1)         RUNNING_ENA(6)      0     (19) )

Sw State Info for Node = node0_RP0_CPU0

 ------------------------------------------------------------------------------
 Type      Node          Nodeid  PrevState  CurState  Red-Role/       Partner   Par
                                   (BAND)     (BAND)   Red-State        node     nae
 ------------------------------------------------------------------------------
 LC(2)     0/1/CPU0      0x11      INFRA      FINAL    Active/Down     0xffffffff
 DRP(1)    0/4/CPU0      0x41      INFRA      FINAL    Active/Down     0xffffffff
 DRP(1)    0/4/CPU1      0x42      INFRA      FINAL    Active/Down     0xffffffff
 LC(2)     0/6/CPU0      0x61      INFRA      FINAL    Active/Down     0xffffffff
 RP(0)     0/RP0/CPU0    0x201     INFRA      FINAL    Active/Down     0x211
 RP(0)     0/RP1/CPU0    0x211     INFRA      FINAL    Standby/Down    0x201

Config Info for Node = node0_RP0_CPU0
LRd basic configuration data:
_____________________________________________
        node                : 0x201
        lr_id               : 0
        lr_name             : Owner
        dsc node            : 0x201
        dsc partner node    : 0x211
        dlrsc node          : 0x201
        dlrsc partner node  : 0x211
        am I dSC            : Yes
        am I STBY dSC       : NO
        am I dLRSC          : Yes
        am I STBY dLRSC     : NO
        primary node        : 0x201
        primary node1       : 0x211
        mcast addr          : 0x0
        mac addr            : 0x01563c0b00
_____________________________________________
         ADMIN CONFIG is APPLIED
_____________________________________________
lrd log file path is /net/node0_RP0_CPU0/tmp/lrd.log

------------LRD LOG START FOR NODE node0_RP0_CPU0------------

10/11 10:19:16.309 1 main: ---LRD starting---

10/11 10:19:16.325 1 main: **********LRD on Node=0x201**********

10/11 10:19:16.327 1 main: mutex init for inv_mutex DONE.

10/11 10:19:17.772 1 lrd_get_dsc: dSC = 201

10/11 10:19:17.774 1 main: We are dSC.

10/11 10:19:17.776 1 main: Registering with SSM as service provider. Once

--------------------------------------------------------------------------------

                              show tech-support lrd

--------------------------------------------------------------------------------


++++ lrdbg -I -1: lrd server inventory [17:21:35.603 UTC Fri Dec 18 2009] +++++
```

```
Success: node_count=8, ready=1
node=0x1(0/RSP0/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1
lr_name=Owner pd_card_type=0x100302, partner=0x11
node=0x11(0/RSP1/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2
lr_name=Owner pd_card_type=0x100302, partner=0x1
node=0x4a0(0/FT0/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0x0
node=0x4b0(0/FT1/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0x0
node=0x821(0/0/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x841(0/2/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x851(0/3/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0
lr_name=Owner pd_card_type=0x3020a
node=0xe10(0/PM1/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0xf00188


---- lrdbg -I -1: lrd server inventory [17:21:36.023 UTC Fri Dec 18 2009] -----


+++ lrdbg -L local_node_lrd: local LR config info [17:21:36.215 UTC Fri Dec 18 2009] ++++




lrdbg 'i' getting CONFIG INFO
Starting lrdbg commands for node = 0/RSP0/CPU0
lrdbg: temp_node_name copied is 0/RSP0/CPU0
node_name = node0_RSP0_CPU0 chan_name = /net/node0_RSP0_CPU0/dev/lrd_local
user_nodeid=1 user_lrname = Owner
Local nodeid=1 Local lrname=Owner
User nodeid=1 User lrname = Owner User lrid=0
lrdbg: Successfully connected to channel /net/node0_RSP0_CPU0/dev/lrd_local

Starting lrdbg commands for node = node0_RSP0_CPU0 lrid = 0

DLRSC Info for Node = node0_RSP0_CPU0 Nodeid = 0x1 lrid = 0
We are the dLRSC, Backup dLRSC is 0x11

Inventory Info for Node = node0_RSP0_CPU0 lrid = 0
Success: node_count=5, ready=1
node=0x1(0/RSP0/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1
lr_name=Owner pd_card_type=0x100302, partner=0x11
node=0x11(0/RSP1/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2
lr_name=Owner pd_card_type=0x100302, partner=0x1
node=0x821(0/0/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x841(0/2/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x851(0/3/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0
lr_name=Owner pd_card_type=0x3020a

LR name Info for Node = node0_RSP0_CPU0

dSC node:         0/RSP0/CPU0
```

```
standby dSC node: 0/RSP1/CPU0

LRs (Configured, pre-existing) basic info:
 Name                                LRid  dLRSC         backup_dLRSC
-------------------------------------------------------------------------
 Owner                               0     0/RSP0/CPU0   0/RSP1/CPU0

LRs (Configured, pre-existing) basic info:
Lr-Names             LRid dLRSC      StbydLRSC  Primary    Primary1   McastAddr  MacAddr
-------------------------------------------------------------------------------------------
Owner                0    0/RSP0/CPU0 0/RSP1/CPU0 0/RSP0/CPU0 0/RSP1/CPU0 0
0211bfcfe7e

Client Vector for Node = node0_RSP0_CPU0
Received 25 currently connected lrd clients
 PID    op    eFLAGS    cFLAGS
_____________________________
  213071     0x40     0x1       0x0
  213090     0x1     0x4       0x3
  163876     0x11     0x204       0x1
  176173     0x10     0x200       0x0
  184381     0x1     0x4       0x1
  213089     0x2     0x0       0x0
  208966     0x23     0x84       0x1
  229494     0x1     0x4       0x1
  221289     0x1     0x4       0x1f
  241796     0x41     0x15       0x3
  245905     0x40     0x1       0x0
  245902     0x1     0x14       0x7
  245901     0x1     0x14       0x7
  237682     0x1     0x4       0x7
  237695     0x1     0x4       0x3
  245908     0x40     0x1       0x0
  245907     0x40     0x1       0x0
  213092     0x1     0x14       0x3
  254123     0x1     0x14       0x3
  254124     0x1     0x4       0x4
  262347     0x1     0x4       0x4
  262351     0x1     0x14       0x4
  270550     0x1     0x4       0x7
  254139     0x40     0x1       0x4
  270596     0x40     0x1       0x0

DLL loaded for Node = node0_RSP0_CPU0
  liblrd_dl_node_state_0.dll                   0.0
 liblrd_dl_sw_state_0.dll                    0.0
 liblrd_dl_fwd_ldr_0.dll                     0.0
 liblrd_alpha_fwd.dll                        1.0
 liblrd_envmon_fwd.dll                       1.0
 liblrd_invmgr_fwd.dll                       1.0
         dll name                          version
_____________________________________________
Node State Info for Node = node0_RSP0_CPU0

 Type     Node        Nodeid    Prev State        Cur State         LRid  (PD ctype)
(old-lr-id)
 ---------------------------------------------------------------------------------
 RP(0)    0/RSP0/CPU0  0x1      RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x100302) (-1)
 RP(0)    0/RSP1/CPU0  0x11     RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x100302) (-1)
 LC(2)    0/0/CPU0     0x821    RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x30207) (-1)
 LC(2)    0/2/CPU0     0x841    RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x30207) (-1)
 LC(2)    0/3/CPU0     0x851    BRINGDOWN(7)      NOT_PRESENT(0)     0    (0x3020a) (-1)

Sw State Info for Node = node0_RSP0_CPU0
```

```
 ------------------------------------------------------------------------------------
 Type     Node         Nodeid  PrevState  CurState  Red-Role/       Partner   Pair
                               (BAND)     (BAND)   Red-State        node     name
 ------------------------------------------------------------------------------------
 RP(0)    0/RSP0/CPU0  0x1      INFRA      FINAL    Active/Down     0x11
 RP(0)    0/RSP1/CPU0  0x11     INFRA      FINAL    Standby/Down    0x1
 LC(2)    0/0/CPU0     0x821    INFRA      FINAL    Active/Down     0xffffffff
 LC(2)    0/2/CPU0     0x841    INFRA      FINAL    Active/Down     0xffffffff
 LC(2)    0/3/CPU0     0x851    INFRA      --       Unknown/Down    0xffffffff

Config Info for Node = node0_RSP0_CPU0
LRd basic configuration data:
_____________________________________________
        node                : 0x1
        lr_id               : 0
        lr_name             : Owner
        dsc node            : 0x1
        dsc partner node    : 0x11
        dlrsc node          : 0x1
        dlrsc partner node  : 0x11
        am I dSC            : Yes
        am I STBY dSC       : NO
        am I dLRSC          : Yes
        am I STBY dLRSC     : NO
        primary node        : 0x1
        primary node1       : 0x11
        mcast addr          : 0x0
        mac addr            : 0x0211bfcfe7e
_____________________________________________
         ADMIN CONFIG is APPLIED
_____________________________________________


--- lrdbg -L local_node_lrd: local LR config info [17:21:36.695 UTC Fri Dec 18 2009] ----


++++ lrd_show -I for this SDR-s DSDRSC [17:21:36.846 UTC Fri Dec 18 2009] +++++

Success: node_count=5, ready=1
node=0x1, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_name=Owner,
pd_card_type=0x100302, partner=0x11
node=0x11, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2, lr_name=Owner,
 pd_card_type=0x100302, partner=0x1
node=0x821, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_name=Owner,
 pd_card_type=0x30207
node=0x841, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_name=Owner,
 pd_card_type=0x30207
node=0x851, type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0, lr_name=Owner,
 pd_card_type=0x3020a


---- lrd_show -I for this SDR-s DSDRSC [17:21:37.240 UTC Fri Dec 18 2009] -----


+++ lrdbg -n -1: lrd server node states [17:21:37.386 UTC Fri Dec 18 2009] ++++
```

```
 Type     Node        Nodeid    Prev State        Cur State         LRid  (PD ctype)
(old-lr-id)
 ------------------------------------------------------------------------------
 RP(0)    0/RSP0/CPU0  0x1      RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x100302) (-1)
 RP(0)    0/RSP1/CPU0  0x11     RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x100302) (-1)
 LC(2)    0/0/CPU0     0x821    RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x30207) (-1)
 LC(2)    0/2/CPU0     0x841    RUNNING_MBI(5)    RUNNING_ENA(6)     0    (0x30207) (-1)
 LC(2)    0/3/CPU0     0x851    BRINGDOWN(7)      NOT_PRESENT(0)     0    (0x3020a) (-1)


--- lrdbg -n -1: lrd server node states [17:21:37.766 UTC Fri Dec 18 2009] ----


+++ lrdbg -s -1: lrd server software states [17:21:37.914 UTC Fri Dec 18 2009] ++++




 ------------------------------------------------------------------------------
 Type     Node        Nodeid  PrevState  CurState  Red-Role/       Partner   Pair
                               (BAND)     (BAND)   Red-State        node     name
 ------------------------------------------------------------------------------
 RP(0)    0/RSP0/CPU0  0x1      INFRA     FINAL    Active/Down     0x11
 RP(0)    0/RSP1/CPU0  0x11     INFRA     FINAL    Standby/Down    0x1
 LC(2)    0/0/CPU0     0x821    INFRA     FINAL    Active/Down     0xffffffff
 LC(2)    0/2/CPU0     0x841    INFRA     FINAL    Active/Down     0xffffffff
 LC(2)    0/3/CPU0     0x851    INFRA     --       Unknown/Down    0xffffffff


--- lrdbg -s -1: lrd server software states [17:21:38.294 UTC Fri Dec 18 2009] ----


++++++++++ show ltrd-trace server [17:21:38.439 UTC Fri Dec 18 2009] ++++++++++

lrd_show_ltrace -F lrd/sntf -TP1

41 wrapping entries (1024 possible, 0 filtered, 41 total)
                                                                    Shelfmgr Notfs Rcvd:

                                          R/S/I       node_state    cardstate  adminpower
 adminshut

-------------------------------------------------------------
Dec 14 11:19:58.255 lrd/sntf 0/RSP0/CPU0 t13 : 0/0/1       RUNNING_ENA          6
1         0
Dec 14 11:19:58.259 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     PRESENT              1
1         0
Dec 14 11:19:58.264 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1     BOOTING              3
1         0
Dec 14 11:19:58.267 lrd/sntf 0/RSP0/CPU0 t13 : 0/75/0      PRESENT              1
1         0
Dec 14 11:19:58.268 lrd/sntf 0/RSP0/CPU0 t13 : 0/74/0      PRESENT              1
1         0
Dec 14 11:19:59.320 lrd/sntf 0/RSP0/CPU0 t13 : 0/1/1       RUNNING_MBI          5
1         0
Dec 14 11:19:59.335 lrd/sntf 0/RSP0/CPU0 t13 : 0/225/0     PRESENT              1
1         0
Dec 14 11:19:59.342 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     BOOTING              3
```

```
1         0
Dec 14 11:19:59.354 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     BOOTING              3
1         0
Dec 14 11:20:23.304 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1     MBI_BOOTING          4
1         0
Dec 14 11:20:23.314 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     MBI_BOOTING          4
1         0
Dec 14 11:21:45.710 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1     RUNNING_MBI          5
1         0
Dec 14 11:21:46.237 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     RUNNING_MBI          5
1         0
Dec 14 11:22:01.426 lrd/sntf 0/RSP0/CPU0 t13 : 0/1/1       RUNNING_ENA          6
1         0
Dec 14 11:23:21.504 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1     RUNNING_ENA          6
1         0
Dec 14 11:23:21.511 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1     RUNNING_ENA          6
1         0
Dec 14 15:42:37.504 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     PRESENT              1
1         0
Dec 14 15:42:37.608 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     BOOTING              3
1         0
Dec 14 15:42:37.614 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     BOOTING              3
1         0
Dec 14 15:43:02.999 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     MBI_BOOTING          4
1         0
Dec 14 15:43:48.408 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     RUNNING_MBI          5
1         0
Dec 14 15:45:05.176 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     RUNNING_ENA          6
1         0
Dec 15 14:53:15.444 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     BRINGDOWN            7
1         0
Dec 15 14:53:15.461 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1     NOT_PRESENT          0
1         0


---------- show ltrd-trace server [17:21:38.840 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:38.985 UTC Fri Dec 18 2009] ++++++++++

lrd_show_ltrace -F lrd/sntf -TP2

41 wrapping entries (1024 possible, 0 filtered, 41 total)
                                                                                Shelfmgr
Notfs processed:
                                                        nodeid  o-LRid  LRid  o-state
   n-state      pd-ctype  pi-ctype

------------------------------------------------------------------------
Dec 14 11:19:58.261 lrd/sntf 0/RSP0/CPU0 t13 : 0/2/CPU0   (0x841)     0     0  NOT_PRESENT
   PRESENT         0x0       UNKN
Dec 14 11:19:58.265 lrd/sntf 0/RSP0/CPU0 t13 : 0/0/CPU0   (0x821)     0     0  NOT_PRESENT
   BOOTING         0x0       UNKN
Dec 14 11:19:58.268 lrd/sntf 0/RSP0/CPU0 t13 : 0/FT1/SP   (0x4b0)    -1    -1  NOT_PRESENT
   PRESENT         0x0       UNKN
Dec 14 11:19:58.269 lrd/sntf 0/RSP0/CPU0 t13 : 0/FT0/SP   (0x4a0)    -1    -1  NOT_PRESENT
   PRESENT         0x0       UNKN
Dec 14 11:19:59.327 lrd/sntf 0/RSP0/CPU0 t13 : 0/RSP1/CPU0(0x11 )     0     0  NOT_PRESENT
   RUNNING_MBI     0x100000  RP
Dec 14 11:19:59.341 lrd/sntf 0/RSP0/CPU0 t13 : 0/PM1/SP   (0xe10)    -1    -1  NOT_PRESENT
   PRESENT         0xf00188  UNKN
Dec 14 11:19:59.345 lrd/sntf 0/RSP0/CPU0 t13 : 0/2/CPU0   (0x841)     0     0  PRESENT
   BOOTING         0x0       UNKN
```

```
Dec 14 11:20:23.306 lrd/sntf 0/RSP0/CPU0 t13 : 0/0/CPU0   (0x821)     0     0  BOOTING
   MBI_BOOTING     0x30207   LC
Dec 14 11:20:23.316 lrd/sntf 0/RSP0/CPU0 t13 : 0/2/CPU0   (0x841)     0     0  BOOTING
   MBI_BOOTING     0x30207   LC
Dec 14 11:21:45.711 lrd/sntf 0/RSP0/CPU0 t13 : 0/0/CPU0   (0x821)     0     0  MBI_BOOTING
   RUNNING_MBI     0x30207   LC
Dec 14 11:21:46.239 lrd/sntf 0/RSP0/CPU0 t13 : 0/2/CPU0   (0x841)     0     0  MBI_BOOTING
   RUNNING_MBI     0x30207   LC
Dec 14 15:42:37.508 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  NOT_PRESENT
   PRESENT         0x0       UNKN
Dec 14 15:42:37.609 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  PRESENT
   BOOTING         0x0       UNKN
Dec 14 15:43:03.000 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  BOOTING
   MBI_BOOTING     0x3020a   LC
Dec 14 15:43:48.409 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  MBI_BOOTING
   RUNNING_MBI     0x3020a   LC
Dec 15 14:53:15.447 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  RUNNING_ENA
   BRINGDOWN       0x3020a   LC
Dec 15 14:53:15.462 lrd/sntf 0/RSP0/CPU0 t13 : 0/3/CPU0   (0x851)     0     0  BRINGDOWN
   NOT_PRESENT     0x3020a   LC


---------- show ltrd-trace server [17:21:39.392 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:39.548 UTC Fri Dec 18 2009] ++++++++++

lrd_show_ltrace -F lrd/sreg -TP1

29 wrapping entries (64 possible, 0 filtered, 29 total)
                                                                    Client New Registrations:
                                                 jid     pid     Msg-op
Event-flags   Card-flags

---------------------------------------------------------------------
Dec 14 11:19:47.723 lrd/sreg 0/RSP0/CPU0 t15 : 389     213071  DLRSC
dlrsc-state   Unknwn
Dec 14 11:19:47.725 lrd/sreg 0/RSP0/CPU0 t15 : 406     213090  Node State
card-state   RP DRP
Dec 14 11:19:47.727 lrd/sreg 0/RSP0/CPU0 t15 : 95      163876  Pri LR                Unknwn
      Unknwn
Dec 14 11:19:47.731 lrd/sreg 0/RSP0/CPU0 t15 : 168     176173  Pri LR                Unknwn
      Unknwn
Dec 14 11:19:47.739 lrd/sreg 0/RSP0/CPU0 t15 : 404     184381  Node State
card-state   RP
Dec 14 11:19:47.746 lrd/sreg 0/RSP0/CPU0 t15 : 283    213089  LR Crt/Del            Unknwn
      Unknwn
Dec 14 11:19:47.755 lrd/sreg 0/RSP0/CPU0 t15 : 225     208966  Node State
card-state   RP
Dec 14 11:19:55.671 lrd/sreg 0/RSP0/CPU0 t15 : 226     229494  Node State
card-state   RP
Dec 14 11:19:56.522 lrd/sreg 0/RSP0/CPU0 t15 : 335     221289  Node State
card-state   RP DRP LC Other
Dec 14 11:20:00.929 lrd/sreg 0/RSP0/CPU0 t15 : 348     241796  DLRSC
dlrsc-state   Unknwn
Dec 14 11:20:02.842 lrd/sreg 0/RSP0/CPU0 t15 : 245     245905  DLRSC
dlrsc-state   Unknwn
Dec 14 11:20:04.054 lrd/sreg 0/RSP0/CPU0 t15 : 256     245902  Node State
card-state sw-state   RP DRP LC
Dec 14 11:20:04.054 lrd/sreg 0/RSP0/CPU0 t15 : 241     245901  Node State
card-state sw-state   RP DRP LC
Dec 14 11:20:04.699 lrd/sreg 0/RSP0/CPU0 t15 : 219     237682  Node State
card-state   RP DRP LC
```

```
Dec 14 11:20:09.686 lrd/sreg 0/RSP0/CPU0 t15 : 289     237695  Node State
card-state   RP DRP
Dec 14 11:20:09.904 lrd/sreg 0/RSP0/CPU0 t15 : 246     245908  DLRSC
dlrsc-state   Unknwn
Dec 14 11:20:11.607 lrd/sreg 0/RSP0/CPU0 t15 : 266     245907  DLRSC
dlrsc-state   Unknwn
Dec 14 11:20:15.748 lrd/sreg 0/RSP0/CPU0 t15 : 155     213092  Node State
card-state sw-state   RP DRP
Dec 14 11:20:20.401 lrd/sreg 0/RSP0/CPU0 t15 : 341     254123  Node State
card-state sw-state   RP DRP
Dec 14 11:20:24.754 lrd/sreg 0/RSP0/CPU0 t15 : 278     254124  Node State
card-state   LC
Dec 14 11:20:29.079 lrd/sreg 0/RSP0/CPU0 t15 : 144     262347  Node State
card-state   LC
Dec 14 11:20:33.883 lrd/sreg 0/RSP0/CPU0 t15 : 342     262351  Node State
card-state sw-state   LC
Dec 14 11:20:34.194 lrd/sreg 0/RSP0/CPU0 t15 : 181     270550  Node State
card-state   RP DRP LC
Dec 14 11:20:36.280 lrd/sreg 0/RSP0/CPU0 t15 : 312     254139  DLRSC
dlrsc-state   LC
Dec 14 11:20:53.951 lrd/sreg 0/RSP0/CPU0 t15 : 398     270596  DLRSC
dlrsc-state   Unknwn


---------- show ltrd-trace server [17:21:40.125 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:40.326 UTC Fri Dec 18 2009] ++++++++++

lrd_show_ltrace -F lrd/sreg -TP2

29 wrapping entries (64 possible, 0 filtered, 29 total)
                                                                  Client re-Registrations:
                                          jid     pid     Curr-msg-op          New-Msg-op
       Event-flags     Card-flags

--------------------------------------------------------------------------------
Dec 14 11:19:47.757 lrd/sreg 0/RSP0/CPU0 t15 : 95      163876  Pri LR               Node
State         Unknwn      Unknwn
Dec 14 11:20:00.940 lrd/sreg 0/RSP0/CPU0 t15 : 348     241796  DLRSC                Node
State         dlrsc-state   Unknwn
Dec 14 11:20:46.317 lrd/sreg 0/RSP0/CPU0 t15 : 225     208966  Node State           LR
Crt/Del         card-state   RP
Dec 14 11:20:46.317 lrd/sreg 0/RSP0/CPU0 t15 : 225     208966  unknwn               DLSRC
Down         card-state   RP


---------- show ltrd-trace server [17:21:40.774 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:40.994 UTC Fri Dec 18 2009] ++++++++++

No messages to display
lrd_show_ltrace -F lrd/sdwn -TP1


---------- show ltrd-trace server [17:21:41.511 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:41.653 UTC Fri Dec 18 2009] ++++++++++
```

```
No messages to display
lrd_show_ltrace -F lrd/sdwn -TP2


---------- show ltrd-trace server [17:21:42.014 UTC Fri Dec 18 2009] ----------


++++++++++ show ltrd-trace server [17:21:42.150 UTC Fri Dec 18 2009] ++++++++++

lrd_show_ltrace -F lrd/supd -TP1

20 wrapping entries (1024 possible, 0 filtered, 20 total)
                                                                    SW updates sent:
                                                 nodeid              o-state       n-state
 red-role      partner    pi-ctype   LRid

-------------------------------------------------------------------------------------
Dec 14 11:19:47.645 lrd/supd 0/RSP0/CPU0 t3  : 0/RSP0/CPU0(0x1  )  NO STATE     ARB BAND
   Active        0x11        RP    0
Dec 14 11:19:56.368 lrd/supd 0/RSP0/CPU0 t4  : 0/RSP0/CPU0(0x1  )  ARB BAND     ADMIN BAND
   Active        0x11        RP    0
Dec 14 11:20:18.381 lrd/supd 0/RSP0/CPU0 t1  : 0/RSP0/CPU0(0x1  )  ADMIN BAND   INFRA BAND
   Active        0x11        RP    0
Dec 14 11:20:54.823 lrd/supd 0/RSP0/CPU0 t4  : 0/RSP0/CPU0(0x1  )  INFRA BAND   FINAL BAND
   Active        0x11        RP    0
```

show tech-support mpls ldp

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) debugging, use the **show tech-support mpls ldp** command in EXEC mode.

show tech-support mpls ldp {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **verbosity** *value* | **vrf** *name* | **rack** | **location** *node-id*}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack *rack-id*	(Optional) Specifies a list of racks or a specifc rack with *rack-id* argument.

verbosity*value*	Specifies the verbosity. The *value* argument is expressed in number and has valid range from 1 through 4. • 1: brief • 2: detail • 3: detail+trace (dflt) • 4: extended
vrf*name*	(Optional) Specifies a VPN routing and forwarding (VRF) instance.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates LDP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read
mpls-ldp	read

show tech-support mpls optical-uni

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Optical User Network Interface (O-UNI) debugging, use the **show tech-support mpls optical-uni** command in EXEC mode.

show tech-support mpls optical-uni {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **terminal** [**page**]}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
terminal	Specifies that the command output is displayed on the terminal.
page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a

file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates O-UNI debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read
ouni	read

show tech-support mpls rsvp

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Resource Reservation Protocol (RSVP) debugging, use the **show tech-support mpls rsvp** command in EXEC mode.

show tech-support mpls rsvp {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **standby** }

Syntax Description

terminal	Displays the command output on the terminal.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
standby	Displays standby node specific information.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support mpls** command to run **show** commands that display information specific to MPLS RSVP debugging. This command generates RSVP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support mpls rsvp** command:

- **show rsvp interface detail**
- **show rsvp counters pak**
- **show rsvp counters handles**
- **show rsvp counters database private**
- **show rsvp counters messages private**
- **show rsvp counters memory**
- **show rsvp counters events**
- **show rsvp counters notifications-client**
- **show rsvp counters request**
- **show rsvp counters destroy-reasons**
- **show rsvp counters policy**
- **show rsvp graceful-restart**
- **show rsvp fast-reroute summary**
- **show rsvp graceful-restart neighbors detail**
- **show rsvp hello instance detail**
- show rsvp sender detail
- **show rsvp reservation detail**
- **show rsvp request detail**
- **show rsvp session detail**
- **show rsvp authentication**
- **show rsvp sender private**
- **show rsvp reservation private**
- **show rsvp request private**
- **show rsvp interface private**
- **show rsvp installed private**
- **show rsvp trace events**

- **show rsvp trace default**
- **show rsvp trace buffer**
- **show rsvp trace interface**
- **show rsvp trace errors**
- **show rsvp trace client**
- **show rsvp debug-error**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read
mpls-te or ouni	read

Examples

The following example shows some of the **show tech-support mpls rsvp** command output:

```
RP/0/RP0/CPU0:router# show tech-support mpls rsvp terminal page

------------------------------------------------------------------------------

            show tech-support mpls rsvp (Detail with Event traces)

------------------------------------------------------------------------------


------------------------- show rsvp interface detail --------------------------
INTERFACE: GigE0/1/0/0 (ifh=0x1180060).
 VRF ID: 0x0 (Default).
 BW (bits/sec): Max=1230M. MaxFlow=1230M.
                Allocated=0 (0%). MaxSub=0.
 Signalling: No DSCP marking. No rate limiting.
 States in: 0. Max missed msgs: 4.
 Expiry timer: Not running. Refresh interval: 45s.
 Normal Refresh timer: Not running. Summary refresh timer: Not running.
 Refresh reduction local: Enabled. Summary Refresh: Enabled (4096 bytes max).

 Reliable summary refresh: Disabled. Bundling: Enabled. (4096 bytes max).
 Ack hold: 400 ms, Ack max size: 4096 bytes. Retransmit: 900ms.


--------------------------- show rsvp counters pak ----------------------------
Number of pak TX=0
Number of pak events received from raw=1
Number of spurious events received from raw=1
Number of packets received from raw=0
Number of errored drops=0
Authentication queue:
    Number of enqueues=0
    Number of drops due to max q size=0
    High water mark=0
    Current queue size=0
High priority queue:
    Number of enqueues=0
```

```
    Number of drops due to max q size=0
    High water mark=0
    Current queue size=0
Low priority queue:
    Number of enqueues=0
    Number of drops due to max q size=0
    High water mark=0
    Current queue size=0


------------------------ show rsvp counters handles --------------------------

         All allocated handles:     5
    Unallocated cached handles:  1019
                                -------
                  LXSB handles:     1
                   ISB handles:     2
                    KI handles:     1
                                -------
  Total handles ever allocated:     5
      Total handles ever freed:     0


--------------------- show rsvp counters database private ---------------------

                                Sessions: 0
       Locally created and incoming Paths: 0
                           Outgoing Paths: 0
Locally created and incoming Reservations: 0
                     Outgoing Reservations: 0
                                Interfaces: 2
                                 Installed: 0
                             New LSP count: 0
                       Refreshed LSP count: 0
      LSP count recovered from checkpoint: 0
                             Proxy Senders: 0
                         Proxy Reservations: 0
                            Proxy Listeners: 1
                             TMB allocation: 0
                               Local Routes: 22


---------------------- show rsvp counters messages private ----------------------
 Routed                  Recv     Xmit                        Recv     Xmit
    Path                                0    Resv                           0
    PathError                           0    ResvError                      0
    PathTear                            0    ResvTear                       0
    ResvConfirm                         0    Hello                          0
    Ack                                 0    SRefresh                       0
    Challenge                           0    ChallengeRsp                   0
    Retransmit                          0    Rate Limited                   0
    OutOfOrder
    Bundle                              0    AckSubmsg                      0
    PathSubmsg                          0    ResvSubmsg                     0
    PathTearSubmsg                      0    ResvTearSubmsg                 0
    PathErrorSubmsg                     0    ResvErrorSubmsg                0
    PathQuery                           0

 POS0/1/0/0              Recv     Xmit                        Recv     Xmit
    Path                    0        0    Resv                      0        0
    PathError               0        0    ResvError                 0        0
    PathTear                0        0    ResvTear                  0        0
    ResvConfirm             0        0    Hello                     0        0
    Ack                     0        0    SRefresh                  0        0
```

```
   Challenge              0        0    ChallengeRsp           0        0
   Retransmit                      0    Rate Limited                    0
   OutOfOrder             0
   Bundle                 0        0    AckSubmsg              0        0
   PathSubmsg             0        0    ResvSubmsg             0        0
   PathTearSubmsg         0        0    ResvTearSubmsg         0        0
   PathErrorSubmsg        0        0    ResvErrorSubmsg        0        0
   PathQuery              0        0

 All RSVP Interfaces    Recv     Xmit                         Recv     Xmit
   Path                    0        0    Resv                   0        0
   PathError               0        0    ResvError              0        0
   PathTear                0        0    ResvTear               0        0
   ResvConfirm             0        0    Hello                  0        0
   Ack                     0        0    SRefresh               0        0
   Challenge               0        0    ChallengeRsp           0        0
   Retransmit                       0    Rate Limited                    0
   OutOfOrder              0
   Bundle                  0        0    AckSubmsg              0        0
   PathSubmsg              0        0    ResvSubmsg             0        0
   PathTearSubmsg          0        0    ResvTearSubmsg         0        0
   PathErrorSubmsg         0        0    ResvErrorSubmsg        0        0
   PathQuery               0        0


-------------------------- show rsvp counters memory --------------------------
Pool size  Count
---------- ----------
32                  0
48                  0
96                  0
128                 0
192                 0
256                 0
Dynamic             0

-------------------------- show rsvp counters events --------------------------
POS0/1/0/0                            All RSVP Interfaces
 Expired Path states           0         Expired Path states           0
 Expired Resv states           0         Expired Resv states           0
 NACKs received                0         NACKs received                0

------------------- show rsvp counters notifications-client -------------------
Total notifications                    Total filtered notifications
 Path delete                        0  Path delete                        0
 Path error                         0  Path error                         0
 Path change                        0  Path change                        0
 Matching Resv create               0  Matching Resv create               0
 Matching Resv change               0  Matching Resv change               0
 Matching Resv delete               0  Matching Resv delete               0
 Async Path create                  0  Async Path create                  0
 Resv delete                        0  Resv delete                        0
 Resv error                         0  Resv error                         0
 Resv confirm                       0  Resv confirm                       0
 Async Resv create                  0  Async Resv create                  0
 Listener Path create               0  Listener Path create               0
 Listener Path change               0  Listener Path change               0
 Listener Path delete               0  Listener Path delete               0
 Listener Path FRR                  0  Listener Path FRR                  0
 Listener Assign Backup err         0  Listener Assign Backup err         0
 Listener Resv create               0  Listener Resv create               0
 Listener Resv change               0  Listener Resv change               0
 Listener Resv delete               0  Listener Resv delete               0
 Restart Time                       0  Restart Time                       0
```

```
                Recovery Done                       0  Recovery Done                       0
```

show tech-support mpls traffic-eng

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Traffic Engineering (TE) debugging, use the **show tech-support mpls traffic-eng** command in EXEC mode.

show tech-support mpls traffic-eng {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | [**forwarding** { **tunnel-name** *tunnel name* | **tunnel-number** *number*}] | **tp** | **standby**}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
tp	Displays Transport Profile Information.
forwarding	(Optional) Displays forwarding information for a tunnel.
tunnel-name	Specifies the tunnel name that is used by the RSVP process.
tunnel name	Name for the tunnel.
tunnel-number	(Optional) Specifies the tunnel number that is used by the RSVP process.
number	(Optional) Number for the tunnel. The range is from 0 to 65535.
terminal	Specifies that the command output is displayed on the terminal.

page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates MPLS-TE information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read
mpls-te	read

Examples

The following example shows some of the **show tech-support mpls traffic-eng** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support mpls traffic-eng terminal page

------------------------------------------------------------------------------

                     show tech-support mpls traffic-eng

------------------------------------------------------------------------------


-------------------- show mpls traffic-eng tunnels summary --------------------
Signalling Summary:
```

```
            LSP Tunnels Process:  running
                   RSVP Process:  running
                     Forwarding:  enabled
    Head: 0 interfaces, 0 active signalling attempts, 0 established
          0 explicit, 0 dynamic
          0 activations, 0 deactivations
          0 recovering, 0 recovered
    Mids: 2
    Tails: 0
          Periodic reoptimization:  every 3600 seconds, next in 2703 seconds
           Periodic FRR Promotion:  every 300 seconds, next in 106 seconds
      Periodic auto-bw collection:  disabled

Fast ReRoute Summary:
    Head:     0 FRR tunnels, 0 protected, 0 rerouted
    Mid:      0 FRR tunnels, 0 protected, 0 rerouted
    Summary:  0 protected, 0 link protected, 0 node protected, 0 bw protected
    Backup:   0 tunnels, 0 assigned
    Interface: 0 protected, 0 rerouted

--------------- show mpls traffic-eng counters tunnels summary ----------------
 Head:                     Mid:                       Tail:
  Total:                 0 Total:                   8 Total:                   0
  Sender Create:         0 Path Create:             2 Path Create:             0
  Sender Modify:         0 Path Change:             0 Path Change:             0
  Sender Delete:         0 Path Delete:             0 Path Delete:             0
  RESV Create:           0 Receiver Create:         2 Receiver Create:         0
  RESV Change:           0 Receiver Modify:         0 Receiver Modify:         0
  RESV Delete:           0 Receiver Delete:         0 Receiver Delete:         0
  Path Delete:           0 RESV Create:             2 RESV Create:             0
  Path Error:            0 RESV Delete:             0 RESV Delete:             0
  Path Change:           0 RESV Change:             0 RESV Change:             0
  Path Create:           0 Sender Create:           2 RESV Error:              0
  RESV Confirm:          0 Sender Modify:           0
                           Sender Delete            0
  Other:                 0 Other:                   0 Other:                   0

-------------------- show mpls traffic-eng counters batch ---------------------
Messages   Batches   MinSize   MaxSize   AverageSize   Description
--------   -------   -------   -------   -----------   -----------
0          0         0         0         0             IF CREATE
0          0         0         0         0             CAPS ADD
0          0         0         0         0             MTU UPDATE
0          0         0         0         0             STATE UPDATE
0          0         0         0         0             IF REPLICATE
0          0         0         0         0             IF DEL CONFIRM
0          0         0         0         0             IF DELETE
25         23        1         2         1             NOTFN from IM
4          2         2         2         2             MESSAGE to RSVP
9          6         1         2         1             MESSAGES from RSVP
0          0         0         0         0             MESSAGES to IGP
0          0         0         0         0             SYSDB VRFNs
0          0         0         0         0             SYSDB APPLYs
2          1         2         2         2             MESSAGE to LSD
2          2         2         2         1             MESSAGES from LSD
12         6         1         6         2             MESSAGES to IPARM

---------- show mpls traffic-eng link-management statistics summary -----------

  LSP Admission Statistics::

         Setup    Setup    Setup    Setup    Tear     Tear     Tear
         Requests Admits   Rejects  Errors   Requests Preempts Errors
         -------- -------- -------- -------- -------- -------- --------
```

```
    Path        2        2        0        0        0        0        0
    Resv        2        2        0        0        0        0        0


---------------- show mpls traffic-eng link-management summary ----------------

  System Information::
      Links Count         : 6 (Maximum Links Supported 100)
      Flooding System     : enabled
      IGP Areas Count     : 1

  IGP Areas
  ----------

  IGP Area[1]:: OSPF 100 area 0
      Flooding Protocol   : OSPF
      Flooding Status     : flooded
 --More--  Zero Nodes Found.
      Periodic Flooding   : enabled (every 180 seconds)
      Flooded Links       : 6
      IGP System ID       : 10.1.1.1
      MPLS TE Router ID   : 10.1.1.1
      IGP Neighbors       : 6


------------- show mpls traffic-eng fast-reroute database summary -------------
Status     Count
---------- ----------
Active     0
Ready      0
Partial    0

------------------------ show mpls forwarding summary -------------------------
Forwarding entries:
   Label switching: 60
   MPLS TE tunnel head: 0
   MPLS TE fast-reroute: 0 via 0 protected next-hops
   MPLS TE internal: 0
Forwarding updates:
   392 updates, 37 messages
Labels in use:
   Reserved: 3
   Lowest: 0
   Highest: 16059
   Deleted stale label entries: 0

Pkt drops=0, fragm=0, fail_look=0

Pkts dropped:    0
Pkts fragmented: 0
Failed lookups:  0

----------------------- show cef drop location 0/0/cpu0 -----------------------
CEF Drop Statistics

----------------------- show cef drop location 0/1/cpu0 -----------------------
CEF Drop Statistics
Node: 0/1/CPU0
  Unresolved drops     packets :               0
  Unsupported drops    packets :               0
  Null0 drops          packets :               0
  No route drops       packets :               0
  No Adjacency drops   packets :               0
```

```
        Checksum error drops packets :              0
```

show tech-support multicast

To automatically run **show** commands that display information specific to multicast-related information, use the **show tech-support multicast** command in EXEC mode.

show tech-support multicast [{**address-family** | **classic** | **group** *group-address* | **hardware** | **source** *source address* | **location** *node-id* | **vrf** *vrf-name* | **rack** *rack-id* | {**file** *send-to*[{**background** | **compressed** | **uncompressed**}]}}]

Syntax Description

address-family	Collects address family specific information. It can be either ipv4 or ipv6.
classic	(Optional) Retrieves multicast related information using the non-fast method.
group	(Optional) Specifies the multicast group address.
group-address	(Optional) Address or name of the multicast group. An address is a multicast IP address in four-part dotted-decimal notation. A name is as defined in the Domain Name System (DNS) hosts table.
file	(Optional) Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
source	(Optional) Displays the multicast source address.
source address	(Optional) Source address for multicast.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
hardware	(Optional) Displays the hardware platform information.

rack	(Optional) Displays the list of racks.
vrf	(Optional) Specifies a VPN routing and forwarding (VRF) instance.
vrf-name	Name of VRF.

Command Default

Output is logged to the terminal screen.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 6.4.1	From this release onwards **address-family** is a mandatory keyword.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support multicast** command to run **show** commands that display information specific to multicast-related information for PIM, IGMP, and mcast. This command generates multicast information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support multicast** command:

- **show version**
- **show running-config**
- **show ip interface brief**
- **show install**
- **show processes aborts location all**
- **show processes blocked location all**
- **show context location all**
- **show memory summary location all**
- **show ip access-lists show ip mhost default-interface**

- **show msdp summary**
- **show msdp globals**
- **show msdp sa-cache summary**
- **show msdp statistics peer**
- **show pim group-map**
- **show pim topology route-count**
- **show pim topology** *ip-address*
- **show pim rpf count**
- **show pim rpf**
- **show pim traffic**
- **show pim join-prune statistic**
- **show pim interface state-on**
- **show pim tunnel info all**
- **show pim neighbor**
- **show pim nsf**
- **show pim summary**
- **show igmp groups summary**
- **show igmp groups** *group-address*
- **show igmp interface**
- **show igmp traffic**
- **show igmp nsf**
- **show igmp summary**
- **show mrib client filter**
- **show mrib route summary**
- **show mrib route** *source-address*
- **show mrib nsf**
- **show cef ipv4** *prefix* **location** *node-id*
- **show mfib route summary location** *node-id*
- **show mfib route** *source-address* **location** *node-id*
- **show mfib counter location** *node-id*
- **show mfib nsf location** *node-id*
- **show mfib hardware route mofrr location** *node-id*
- **show mfib hardware route olist detail** *source-address* **location** *node-id*
- **show mfib hardware interface detail location** *node-id*
- **show mfib hardware route statistics** *source-address* **location** *node-id*
- **show mfib hardware resource-counter location** *node-id*
- **show mfib hardware adjacency detail location** *node-id*
- **show mfib hardware route accept-bitmap detail** *source-address* **location** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services or cisco-support	read

Task ID	Operations
multicast	read

show tech-support netflow

To automatically run **show** commands that display information specific to netflow debugging, use the **show tech-support netflow** command in EXEC mode.

show tech-support netflow [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [**location** *node-id*] [**rack**]

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates netflow debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support nrs

To automatically run **show** commands that display information specific to the name registration service (NRS) information, use the **show tech-support nrs** command in EXEC mode.

show tech-support nrs [{**file** *send-to* [{**background** | **compressed** | **uncompressed**}] | **location** *node-id* | **rack**}]

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
rack	(Optional) Displays the list of racks.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support nrs** command to collect data for the NRS. The NRS is a central registration authority and is used by the Replication Data Services (RDS) and the Event Notification Services (ENS). This command generates NRS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support password

To automatically run **show** commands that display information to include the password in the output for debugging, use the **show tech-support password** command in EXEC mode.

show tech-support password {[**file** *send-to* [**background**] [{**compressed**|**uncompressed**}]]|**location** *node-id* | **rack**}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates output to include the password for debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support pfi

To automatically run **show** commands that display information specific to Packet Forwarding Infrastructure (PFI) debugging for all components, use the **show tech-support pfi** command in EXEC mode.

show tech-support pfi {**file** *send-to* [{**background** | **compressed** | **uncompressed**}]}

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support pfi** command to collect information for the PFI, which consists of interface-related date with regards to netio and interface manager. This command generates output PFI debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read
cisco-support	read

show tech-support placement

To automatically run **show** commands that display information specific to process placement, use the **show tech-support placement** command in EXEC mode.

show tech-support placement {**terminal** [**page**] | **file** *send-to* [{**background** | **compressed** | **uncompressed**}]}

Syntax Description

terminal	Displays the command output on the terminal.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates process placement debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read
sysmgr	read

Examples

The following example shows some of the **show tech-support placement** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support placement terminal page

------------------------------------------------------------------------------

                          show tech-support placement

------------------------------------------------------------------------------

------------------------------ run lrd_show -I ------------------------------
Success: node_count=6, ready=1
node=0x11, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_0
node=0x41, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_f
node=0x42, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_f
node=0x61, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_0
node=0x201, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr1
node=0x211, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2, lr1

------------------------- show placement trace all --------------------------
Oct 11 19:23:59.949 main      bag_register_all_placed_mgmnt_defs_bags rc = No er
Oct 11 19:23:59.980 main      bag_register_all_placed_mgmnt_bags rc = No error
Oct 11 19:24:06.420 main      Checkpoint initialization succeeded
Oct 11 19:24:06.665 main      Starting for the first time in this LR
Oct 11 19:24:06.725 nodes     registered nodes bags, rc = 0 (No error)
Oct 11 19:24:06.728 nodes     We are running on node 0/RP0/CPU0
Oct 11 19:24:06.734 nodes     lrd_register_card_state ok
Oct 11 19:24:06.734 nodes     Setting timer for 70 seconds, thread 1
Oct 11 19:24:06.748 nodes     Successfully got inventory (attempt 1 of 30)
```

```
Oct 11 19:24:06.748 nodes     Stopping timer
Oct 11 19:24:06.748 nodes     LR inventory has 4 RP/DRP nodes
Oct 11 19:24:06.850 nodes     update_node: nodeid 0/4/CPU0, pnodeid [NODEID_INV0
Oct 11 19:24:06.850 nodes     Creating new node
Oct 11 19:24:06.877 nodes     update_node: nodeid 0/4/CPU1, pnodeid [NODEID_INV0
Oct 11 19:24:06.877 nodes     Creating new node
Oct 11 19:24:06.877 nodes     update_node: nodeid 0/RP0/CPU0, pnodeid 0/RP1/CPU1
Oct 11 19:24:06.877 nodes     Creating new node
Oct 11 19:24:06.877 nodes     node::_get_active_nodeid(Placed_node (482c1088) (0
Oct 11 19:24:06.917 nodes     update_node: nodeid 0/RP1/CPU0, pnodeid 0/RP0/CPU2
Oct 11 19:24:06.917 nodes     Nodeid 0/RP1/CPU0 is already in node object Place)
Oct 11 19:24:06.917 nodes     Information differs
Oct 11 19:24:06.917 nodes     node 0/RP0/CPU0 is active
Oct 11 19:24:06.917 nodes     node::_get_active_nodeid(Placed_node (482c1088) (0
Oct 11 19:24:06.917 nodes     rescan_lrd_inventory rc = 0 (No error)
Oct 11 19:24:06.917 nodes     apply_startup_type: no action required (0)
Oct 11 19:24:06.978 properties registered properties bags, rc = 0 (No error)
Oct 11 19:24:06.978 properties Inserting Nodetypeaffinity (48283504) (value 100)
Oct 11 19:24:06.985 edm       placed_edm_init succeeded
Oct 11 19:24:07.086 properties Inserting Classaffinity (482827b8) (value 250.00g
Oct 11 19:24:07.086 properties Inserting Classaffinity (48282830) (value 250.00i
Oct 11 19:24:07.086 properties Inserting Classaffinity (4828286c) (value 250.00g
Oct 11 19:24:07.086 properties Inserting Classaffinity (482828a8) (value 250.00i
Oct 11 19:24:07.086 properties Inserting Selfaffinity (483297ac) (value -160.00)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (483297e0) (value -50)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (48329814) (value 50.)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (48329848) (value 600)
Oct 11 19:24:07.131 properties Inserting Classaffinity (482828e4) (value 70.00)i
Oct 11 19:24:07.131 properties Inserting Classaffinity (48282920) (value 70.00)i
Oct 11 19:24:07.131 properties Inserting Classaffinity (4828295c) (value 70.00)i
Oct 11 19:24:07.132 properties Inserting Classaffinity (4832b048) (value 70.00)i
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (483298b0) (value -15)
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (483298e4) (value 200)
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (48329918) (value 600)
Oct 11 19:24:07.193 properties Inserting Nodetypeaffinity (4832994c) (value -20)
Oct 11 19:24:07.194 properties Inserting Nodetypeaffinity (4832b818) (value 250)
Oct 11 19:24:07.226 properties Inserting Nodetypeaffinity (4832b880) (value -402
Oct 11 19:24:07.275 properties Inserting Nodetypeaffinity (4832b8b4) (value -20)
Oct 11 19:24:07.275 properties Inserting Nodetypeaffinity (4832b8e8) (value 250)
Oct 11 19:24:07.350 properties Inserting Nodetypeaffinity (4832b950) (value -402
Oct 11 19:24:07.402 properties Inserting Nodetypeaffinity (4832b9b8) (value -40)
Oct 11 19:24:07.562 properties Inserting Nodetypeaffinity (4832baf0) (value 100)
```

show tech-support platform

To automatically run **show** commands that display information specific to platforms, use the **show tech-support platform** command in EXEC mode.

show tech-support platform {**file** *send-to* | **location** *node-id* | **rack**}

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
location *node-id*	(Optional) Specifies a node. (Optional). Node ID. The node-id argument is entered in the rack/slot/module notation.
rack	(Optional) Displays the list of racks.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support platform** command to run **show** commands that display information specific to platforms. This command generates platform debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support platform** command:

- **show controller squid summary**
- **show controller plim asic statistics summary location** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

Examples

The following example shows some of the **show tech-support platform** command output:

```
RP/0/RP0/CPU0:router# show tech-support platform

------------------------ show controller squid summary ------------------------
Cpuctrl discovered 14 device on node 0/1/CPU0:

Cpuctrl HW version string for this node is:
Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 userb

-------------------------------------------------------------
device_name:         Fabricq    device instance:    0
Cpuctrl net port:    3          pci_base:            0x8c000000

-------------------------------------------------------------
device_name:         Fabricq    device instance:    1
Cpuctrl net port:    4          pci_base:            0x90000000

-------------------------------------------------------------
device_name:         Ingressq   device instance:    0
Cpuctrl net port:    8          pci_base:            0xa0000000

-------------------------------------------------------------
device_name:         Egressq    device instance:    0
Cpuctrl net port:    7          pci_base:            0x9c000000

-------------------------------------------------------------
device_name:         FIA        device instance:    0
Cpuctrl net port:    1          pci_base:            0x84000000

-------------------------------------------------------------
device_name:         FIA        device instance:    1
Cpuctrl net port:    2          pci_base:            0x88000000
```

```
------------------------------------------------------------
device_name:         Cpuctrl    device instance:    0
Cpuctrl net port:    0          pci_base:            0x80000000

------------------------------------------------------------
device_name:         PSE        device instance:    1
Cpuctrl net port:    6          pci_base:            0x98000000

------------------------------------------------------------
device_name:         PSE        device instance:    0
Cpuctrl net port:    5          pci_base:            0x94000000

------------------------------------------------------------
device_name:         PlimAsic for SPA   device instance:    0
Cpuctrl net port:    9          pci_base:            0xa4000000
.
.
.
------- show controller plim asic statistics summary location 0/1/CPU0 --------
             Node: 0/1/CPU0
--------------------------------------
Instance# 0 Statistics
------------------------------------------------------------------------
To PSE       : 1034176             BP count   : 2615809697
RMC Runt     : 0                   RMC Giant  : 0
RMC Tail Drop: 1                   L2P Drop   : 0
From Egressq : 924513              SIF Drop   : 0
TLK Drop     : 0

Port 0
To SPA       : 0                   From SPA  : 0
RSI FIFO Drop: 0                   QPM  Drop : 0
QPM OVFL     : 0                   RPB  Drop : 0

Port 1
To SPA       : 0                   From SPA  : 0
RSI FIFO Drop: 0                   QPM  Drop : 0
QPM OVFL     : 0                   RPB  Drop : 0

Port 2
To SPA       : 924513              From SPA  : 1034177
RSI FIFO Drop: 0                   QPM  Drop : 0
QPM OVFL     : 0                   RPB  Drop : 0

Instance# 1 Statistics
------------------------------------------------------------------------
To PSE       : 9217833             BP count   : 2323530765
RMC Runt     : 0                   RMC Giant  : 0
RMC Tail Drop: 2590                L2P Drop   : 0
From Egressq : 9317309             SIF Drop   : 0
TLK Drop     : 0

Port 0
To SPA       : 0                   From SPA  : 0
RSI FIFO Drop: 0                   QPM  Drop : 0
QPM OVFL     : 0                   RPB  Drop : 0

Port 1
To SPA       : 537745              From SPA  : 546867
RSI FIFO Drop: 0                   QPM  Drop : 0
QPM OVFL     : 0                   RPB  Drop : 0

Port 2
To SPA       : 8779564             From SPA  : 8673556
```

```
RSI FIFO Drop: 0                    QPM  Drop : 0
QPM OVFL     : 0                    RPB  Drop : 0
```

show tech-support pos

To automatically run **show** commands that display information specific to Packet over SONET /SDH (POS) debugging, use the **show tech-support pos** command in EXEC mode.

show tech-support pos {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}]} **interface** *type instance* [**show-only**] [**trace-only**] [{**location** *node-id* | **all**}] [**rack**]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
interface	Collects information about a specific interface.
type	Interface type. For more information, use the question mark (?) online help function.

instance	Either a physical interface instance or a virtual interface instance as follows:
	• Physical interface instance. Naming notation is *rack/slot/module/port* and a slash between values is required as part of the notation.
	  • *rack*: Chassis number of the rack.
	  • *slot*: Physical slot number of the modular services card or line card.
	  • *module*: Module number. A physical layer interface module (PLIM) is always 0.
	  • *port*: Physical port number of the interface.
	Note In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.
	• Virtual interface instance. Number range varies depending on interface type.
	For more information about the syntax for the router, use the question mark (?) online help function.

show-only	(Optional) Collects only show command information.
terminal	Specifies that the command output is displayed on the terminal.
trace-only	(Optional) Collects only trace information.
location	(Optional) Specifies a node.
node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
rack	(Optional) Displays the list of racks.
page	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl+C** keys to stop the command output.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates POS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows some of the **show tech-support routing pos** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support pos

------------------------------------------------------------------------------

                            show tech-support pos

------------------------------------------------------------------------------


----------------------------- show running-config -----------------------------
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
 exec-timeout 600 0
 session-timeout 600
!
line default
 exec-timeout 600 0
 session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
```

```
domain ipv4 host ce7 172.29.52.78
domain ipv4 host p11 172.29.52.83
domain ipv4 host pe6 172.29.52.128
domain ipv4 host pe7 172.29.52.182
domain ipv4 host ce25 172.29.52.85
domain ipv4 host ce28 172.29.52.1
domain ipv4 host ce29 172.29.52.178
domain ipv4 host pe21 172.29.52.163
domain ipv4 host pe22 172.29.52.219
domain ipv4 host ce28_nme 172.29.52.177
domain ipv4 host ce29_nme 172.29.52.179
domain lookup disable
username P2_CRS-8
 password 7 13061E010803
!
aps group 1
 revert 1
 channel 0 local SONET0/1/4/3
 channel 1 local SONET0/1/4/2
!
vty-pool default 0 25
alias cr copy run disk0:/usr/P1_base_config
alias sa show alias
alias sc show config commit list
alias sd show diag
alias si show ip int brief
alias sl show led
alias sm show mpls forwarding
alias sp show platform
alias sr show run
alias su show users
alias sv show version
alias sir show ip route
control-plane
 management-plane
  inband
   interface all
    allow all
   !
  !
 !
!
ipv4 virtual address 172.29.52.72 255.255.255.0
hw-module service sbc location 0/4/CPU0
hw-module service sbc location 0/4/CPU1
interface Bundle-Ether28
 description Connected to P2_CRS-8 Bundle-Ether 28
 ipv4 address 10.12.28.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 1000000
!
interface Bundle-Ether28.1
 description Connected to P2_CRS-8 Bundle-Ether 28.1
 ipv4 address 10.12.29.1 255.255.255.0
 dot1q vlan 29
!
interface Bundle-Ether28.2
 description Connected to P2_CRS-8 Bundle-Ether 28.2
 ipv4 address 10.12.30.1 255.255.255.0
 dot1q vlan 30
!
interface Bundle-Ether28.3
 description Connected to P2_CRS-8 Bundle-Ether 28.3
 ipv4 address 10.12.31.1 255.255.255.0
```

```
 dot1q vlan 31
!
interface Bundle-POS24
 description Connected to P2_CRS-8 Bundle-POS 24
 ipv4 address 10.12.24.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 2488320
!
interface Loopback0
 ipv4 address 10.1.1.1 255.255.255.255
!
interface MgmtEth0/4/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.46 255.255.255.0
!
interface MgmtEth0/4/CPU1/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.47 255.255.255.0
!
interface MgmtEth0/RP0/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.70 255.255.255.0
!
```

show tech-support ppp

To automatically run **show** commands that display information specific to Point to Point Protocol (PPP) debugging, use the **show tech-support ppp** command in EXEC modeEXEC mode.

show tech-support ppp [{**file send-to** | [**interface** *type instance*] | **location** *node-id* | **rack** | **slow**}]

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
interface	Collects information about a specific interface.
type	Interface type. For more information, use the question mark (?) online help function.

instance	Either a physical interface instance or a virtual interface instance as follows:
	• Physical interface instance. Naming notation is *rack/slot/module/port* and a slash between values is required as part of the notation.
	  • *rack*: Chassis number of the rack.
	  • *slot*: Physical slot number of the modular services card or line card.
	  • *module*: Module number. A physical layer interface module (PLIM) is always 0.
	  • *port*: Physical port number of the interface.
	Note In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.
	• Virtual interface instance. Number range varies depending on interface type.
	For more information about the syntax for the router, use the question mark (?) online help function.

location	(Optional) Specifies a node.

node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
rack	(Optional) Displays the list of racks.
slow	(Optional) Displays the list show commands of interest for ppp debugging

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates PPP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See Obtaining Documentation and Submitting a Service Request section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows some of the **show tech-support routing ppp** command output that is displayed on the terminal:

```
RP/0/RP0/CPU0:router# show tech-support ppp

------------------------------------------------------------------------------

                            show tech-support ppp

------------------------------------------------------------------------------
```

```
------------------------------ show running-config -------------------------------
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
 exec-timeout 600 0
 session-timeout 600
!
line default
 exec-timeout 600 0
 session-timeout 600
```

show tech-support qos

To automatically run **show** commands that display platform independent Quality of Service (QoS) debugging information, use the **show tech-support qos** command in EXEC mode.

show tech-support qos {**platform** | **pi**} [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [{**location** *node-id*}] [**rack**]

Syntax Description

platform	Collects platform dependent QOS related information and saves to disk.
pi	Collects platform independent QOS related information and saves to disk.
file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location	(Optional) Specifies a node.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.9.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates QoS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

Task ID

Task ID	Operations
basic-services	read
cisco-support	read

show tech-support rdsfs

To automatically run **show** commands that display information specific to Replication Data Services File System (RDSFS) debugging, use the **show tech-support rdsfs** command in EXEC mode.

show tech-support rdsfs [{**file** *send-to* [**background**] [{**compressed** | **uncompressed**}] | **location** *node-id* | **rack**}]

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support rdsfs** command to run **show** commands that display information specific to RDSFS debugging and is relevant to bring to a ready state. This command generates RDSFS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows how to run **show tech-support rdsfs** command:

```
RP/0/RP0/CPU0:router# show tech-support rdsfs
```

show tech-support rib

To automatically run **show** commands that display information specific to Routing Information Base (RIB) debugging, use the **show tech-support rib** command in EXEC mode.

show tech-support rib level *number*

Syntax Description

file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
level *number*	Displays verbosity details. *number* argument is either 1 or 2. Verbosity: 1-brief is default. Verbosity: 2-details with all VRF routes.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

The RIB data stores the best path information for the routing protocol that is sent to FIB to help build the data structures. This command generates RIB debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support routing bfd

To automatically run **show** commands that display information specific to Bidirectional Forwarding Detection (BFD) debugging, use the **show tech-support routing bfd** command in EXEC mode.

show tech-support routing bfd[**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [**location** *node-id*]**[rack]**

Syntax Description

file	(Optional) Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a

file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing bfd** command to run **show** commands that display information specific to BFD debugging. This command generates BFD debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing bfd** command:

- **show bfd session**
- **show bfd**
- **show memory heap fail all**
- **show memory summary location all**
- **show process blocked location all**
- **show adjacency**
- **show bfd location**
- **show bfd session detail location** *node-id*
- **show bfd session agent detail location**
- **show bfd timer-groups location***node-id*
- **show bfd index-mgrs location** *node-id*
- **show bfd session-array location** *node-id*
- **show bfd interfaces location** *node-id*
- **show bfd bundles detail location** *node-id*
- **show bfd counters packet invalid** location *node-id*
- **show bfd counters packet private location** *node-id*
- **show bfd client private**
- **show bfd trace all-cards**
- **show controllers cpuctrl summary**
- **show controllers cpuctrl client pdma bfd active location all**
- **show controllers cpuctrl ports ingressq pdma all active location** *node-id*
- **show controllers cpuctrl ports egressq pdma all active location** *node-id*
- **show controllers pse statistics location** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support routing isis

To automatically run **show** commands that display information specific to Intermediate System-to-Intermediate System (IS-IS) debugging, use the **show tech-support routing isis** command in EXEC mode.

show tech-support routing isis [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [**location** *node-id*][**rack]**

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support isis** command to run **show** commands that display information specific to IS-IS debugging. This command generates IS-IS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing isis** command:

- show isis trace all location all
- **show isis all**
- **show clns statistics**
- **show imds interface all**
- **show ipv4 int brief**
- **show ipv6 int brief**
- **show route ipv4**
- **show route ipv6**
- **show inst which comp clns-isis**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support routing ospf

To automatically run **show** commands that display information specific to Open Shortest Path First (OSPF) debugging, use the **show tech-support routing ospf** command in EXEC mode.

show tech-support routing ospf [process*process-id*] [**no-trace**] [{**active** | **standby**}] {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}[**location** *node-id*][**rack]**

Syntax Description

process *process-id*	(Optional) Colletcs show tech-support information for particular OSPF process. *process-id* argument is the name of the OSPF process.
no-trace	(Optional) Excludes trace information from the command output.
active	(Optional) Displays information from active route processor only.
standby	(Optional) Displays information from standby route processor only.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

The command output is not compressed.

Command Modes EXEC mode

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing ospf** command to run **show** commands that display information specific to OSPF debugging. This command generates OSPF debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing ospf** command:

- show ospf
- **show ospf vrf all**
- **show ospf summary**
- **show ospf vrf all summary**
- **show ospf interface**
- **show ospf vrf all interface**
- **show ospf virtual-links**
- **show ospf vrf all virtual-links**
- **show ospf neighbor detail**
- **show ospf vrf all neighbor detail**
- **show ospf database database-summary**
- **show ospf vrf all database database-summary**
- **show ospf database router self-originate**
- **show ospf vrf all database router self-originate**
- **show ospf statistics prot**
- **show ospf statistics raw-io**
- **show ospf statistics te**
- **show ospf statistics spf**

- **show ospf statistics rib-thread**
- **show ospf statistics rib-batch**
- **show ospf message-queue**
- **show ospf border-routers**
- **show ospf vrf all border-routers**
- **show ospf retransmission-list**
- **show ospf vrf all retransmission-list**
- **show ospf request-list**
- **show ospf vrf all request-list**
- **show ospf flood-list**
- **show ospf vrf all flood-list**
- **show ospf maxage-list**
- **show ospf vrf all maxage-list**
- **show ospf bad-checksum**
- **show ospf vrf all bad-checksum**
- **show ospf standby**
- **show ospf vrf all standby**
- **show ip interface brief**
- **show route ipv4 summary**
- **show route vrf all ipv4 summary**
- **show ospf trace all**
- **show logging process ospf**

Note

- If you do not specify any options, all information is collected by default.
- Active and standby options are exclusive and only one of them can be used. When neither active or standby is used, the information is collected from both RPs.
- The **no-trace** option can be used with or without specifying the **active** or **standby** options.
- When **standby** option is specified, only ospf- related information from the standby RP is included in the output. The common non-ospf information such as version, placement info, logging and so on are not included.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support routing ospfv3

To automatically run **show** commands that display information specific to Open Shortest Path First Version 3 (OSPFv3) debugging, use the **show tech-support routing ospfv3** command in EXEC mode.

show tech-support routing ospfv3 [*instance*] [**detail**] {**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}[**location** *node-id*][**rack]**

Syntax Description

instance	(Optional) Name of the OSPFv3 instance.
detail	(Optional) Displays all available OSPFv3 information.
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.3.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing ospfv3** command to run **show** commands that display information specific to OSPFv3 debugging. This command generates OSPFv3 debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing ospfv3** command:

- **show version**
- **show run router ospfv3**
- **show route ipv6 ospf**
- **show ospfv3**
- **show ospfv3 interface**
- **show ospfv3 virtual-links**
- **show ospfv3 neighbor**
- **show ospfv3 message-queue**
- **show ospfv3 request-list**
- **show ospfv3 retransmission-list**
- **show ospfv3 flood-list**
- **show ospfv3 border-routers**
- **show ospfv3 database database-summary**
- **show ospfv3 database**
- **show ospfv3 route**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support routing rpl

To automatically run **show** commands that display information specific to Routing Policy Language (RPL) debugging, use the **show tech-support routing rpl** command in EXEC mode.

show tech-support routing rpl [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] | [**location** *node-id*] | [**rack**]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack	(Optional) Displays the list of racks.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.5.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a

file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing rpl** command to run **show** commands that display information specific to RPL debugging. This command generates RPL debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing rpl** command:

- **show running-config rpl**
- **show process policy_repository**
- **show rpl route-policy** *policy-name* **pxl**
- **show sysdb reg notif path /ipc/gl/policy_lang/policies/routing/** *policy-name* **/pxl s**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support serial

To automatically run **show** commands that display information specific to serial debugging, use the **show tech-support serial** command in EXEC mode.

show tech-support serial [{**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}] [**interface** *type instance*] [**show-only**] [**trace-only**] [{**location** *node-id*}][**rack]**

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
interface	(Optional) Collects information about a specific interface.
type	Interface type. For more information, use the question mark (?) online help function.

instance	Either a physical interface instance or a virtual interface instance as follows: • Physical interface instance. Naming notation is *rack/slot/module/port* and a slash between values is required as part of the notation. • *rack*: Chassis number of the rack. • *slot*: Physical slot number of the modular services card or line card. • *module*: Module number. A physical layer interface module (PLIM) is always 0. • *port*: Physical port number of the interface. **Note** In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0. • Virtual interface instance. Number range varies depending on interface type. For more information about the syntax for the router, use the question mark (?) online help function.
show-only	(Optional) Collects only show command information.
rack	(Optional) Displays the list of racks.
trace-only	(Optional) Collects only trace information.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support serial** command for serial-related data, such as T1/E1. This command generates serial debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support sanitized

To automatically run **show** commands that display information specific to sanitized configuration output, use the **show tech-support sanitized** command in EXEC mode.

show tech-support sanitized [{**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]}] [{**location** *node-id* | **all**}] [**rack**]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location	(Optional) Specifies a node.
node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates sanitized configuration output for debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

show tech-support services

To automatically run **show** commands that display information specific to tech-support information that relates to services, use the **show tech-support services** command in EXEC mode.

show tech-support services { cgn | svi | sesh } [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [**location** *node-id*] [**rack**]

Syntax Description

cgn	Collects PD (platform dependent) information about Service Virtual Interfaces and CGN service
svi	Collets information about Service Virtual Interfaces.
sesh	Collects PD information about SVI and Service Hosting Framework(SESH)
file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk1:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
rack	(Optional) Displays the list of racks.
location*node-id*	Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support services** command to run **show** commands that display information specific to the services diversion infrastructure, which is used with the service blade offerings for the Cisco IOS XR platforms. This command generates tech-support information that relates to services debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support snmp

To automatically run **show** commands that display information specific to tech-support information related to Simple Network Management Protocol (SNMP) agent, use the **show tech-support snmp** command in EXEC mode.

show tech-support snmp [{**entitymib** | **ifmib** | **rack** | **location** [*node-id* | *all*] | [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]]}]

Syntax Description

entitymib	(Optional) Displays the entitymib debugging information.
ifmib	(Optional) Displays the ifmib debugging information.
file	Specifies that the command output is saved to a specified file.
send-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **compactflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **flash:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **slot0:** *filename* • **slot1:** *filename* • **tftp:** *filename*
location*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
rack	(Optional) Displays the list of racks.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Note This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read
cisco-support	read

show tech-support spaipc

To automatically run **show** commands that display information specific to SPA Inter Process Communication (SPAIPC) debugging, use the **show tech-support spaipc** command inEXEC mode.

show tech-support spaipc {**terminal** [**page**] | **file** *send-to* [**background**] [{**compressed** | **uncompressed**}]} [**interface** *type interface-path-id*] [**show-only**] [**trace-only**] [{**location** *node-id* | **all**}]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
interface	(Optional) Collects information about a specific interface.
type	Interface type. For more information, use the question mark (?) online help function.
interface-path-id	Physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark (**?**) online help function.
show-only	(Optional) Collects only show command information.
terminal	Displays the command output on the terminal.
trace-only	(Optional) Collects only trace information.

location	(Optional) Specifies a node.
node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates SPAIPC debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example how to run the **show tech-support spaipc** command:

```
RP/0/RP0/CPU0:router# show tech-support spaipc terminal page

------------------------------------------------------------------------------
                            show tech-support spaipc

------------------------------------------------------------------------------
```

```
----------------------------- show running-config -----------------------------
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
 exec-timeout 600 0
 session-timeout 600
!
line default
 exec-timeout 600 0
 session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
domain ipv4 host ce7 172.29.52.78
domain ipv4 host p11 172.29.52.83
domain ipv4 host pe6 172.29.52.128
domain ipv4 host pe7 172.29.52.182
domain ipv4 host ce25 172.29.52.85
domain ipv4 host ce28 172.29.52.1
domain ipv4 host ce29 172.29.52.178
domain ipv4 host pe21 172.29.52.163
domain ipv4 host pe22 172.29.52.219
domain ipv4 host ce28_nme 172.29.52.177
domain ipv4 host ce29_nme 172.29.52.179
domain lookup disable
username P2_CRS-8
 password 7 13061E010803
!
aps group 1
 revert 1
 channel 0 local SONET0/1/4/3
 channel 1 local SONET0/1/4/2
!
vty-pool default 0 25
alias cr copy run disk0:/usr/P1_base_config
alias sa show alias
alias sc show config commit list
alias sd show diag
alias si show ip int brief
alias sl show led
alias sm show mpls forwarding
alias sp show platform
alias sr show run
alias su show users
alias sv show version
alias sir show ip route
control-plane
 management-plane
  inband
   interface all
    allow all
   !
  !
 !
!
ipv4 virtual address 172.29.52.72 255.255.255.0
hw-module service sbc location 0/4/CPU0
```

```
hw-module service sbc location 0/4/CPU1
interface Bundle-Ether28
 description Connected to P2_CRS-8 Bundle-Ether 28
 ipv4 address 10.12.28.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 1000000
!
interface Bundle-Ether28.1
 description Connected to P2_CRS-8 Bundle-Ether 28.1
 ipv4 address 10.12.29.1 255.255.255.0
 encapsulation dot1q 29
!
interface Bundle-Ether28.2
 description Connected to P2_CRS-8 Bundle-Ether 28.2
 ipv4 address 10.12.30.1 255.255.255.0
 encapsulation dot1q 30
!
interface Bundle-Ether28.3
 description Connected to P2_CRS-8 Bundle-Ether 28.3
 ipv4 address 10.12.31.1 255.255.255.0
 encapsulation dot1q 31
!
interface Bundle-POS24
 description Connected to P2_CRS-8 Bundle-POS 24
 ipv4 address 10.12.24.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 2488320
!
interface Loopback0
 ipv4 address 10.1.1.1 255.255.255.255
!
interface MgmtEth0/4/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.46 255.255.255.0
!
interface MgmtEth0/4/CPU1/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.47 255.255.255.0
!
interface MgmtEth0/RP0/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.70 255.255.255.0
!
interface MgmtEth0/RP1/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.71 255.255.255.0
!
interface GigabitEthernet0/1/5/0
 description Connected to P2_CRS-8 GE 0/1/5/0
 ipv4 address 10.12.16.1 255.255.255.0
!
interface GigabitEthernet0/1/5/1
 description Connected to P4_C12810 GE 5/2
 ipv4 address 10.14.8.1 255.255.255.0
!
interface GigabitEthernet0/1/5/2
 description Connected to PE6_C12406 GE 0/4/0/1
 ipv4 address 10.16.4.1 255.255.255.0
!
interface GigabitEthernet0/1/5/3
 shutdown
!
interface GigabitEthernet0/1/5/4
 shutdown
```

```
!
interface GigabitEthernet0/1/5/5
```

show tech-support sysdb

To automatically run **show** commands that display information specific to the System Database (SysDB), use the **show tech-support sysdb** command in EXEC mode.

show tech-support sysdb [**file** *send-to* [**background**] [{**compressed** | **uncompressed**}]] [**rack**] [**location** *node-id*]

Syntax Description

file	Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
rack	(Optional) Displays the list of racks.
location	(Optional) Specifies a node.
node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/***name.tgz* **tftp://***server_path*.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

The SysDB is the memory database that is used to store configuration and statistical data with some IPC data. This command generates SysDB information that relates to debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
cisco-support	read

show tech-support terminal

To automatically run **show** commands that display information specific to the terminal, use the **show tech-support terminal** command in EXEC mode.

show tech-support terminal [{**location** {*node-id* | **all**} | **page**}]

Syntax Description

location	(Optional) Specifies a node.
node-id	(Optional). Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.
page	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the **Ctrl-C** keys to stop the command output.

Command Modes

EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates terminal information that relates to debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html

Task ID

Task ID	Operations
basic-services	read

Examples

The following example shows some of the **show tech-support terminal** command output:

```
RP/0/RP0/CPU0:router# show tech-support terminal page

------------------------------------------------------------------------------

                                show tech-support

------------------------------------------------------------------------------


---------------------- show running-config (no password) ----------------------

Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
 exec-timeout 600 0
 session-timeout 600
!
line default
 exec-timeout 600 0
 session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
domain ipv4 host ce7 172.29.52.78
domain ipv4 host p11 172.29.52.83
domain ipv4 host pe6 172.29.52.128
domain ipv4 host pe7 172.29.52.182
domain ipv4 host ce25 172.29.52.85
domain ipv4 host ce28 172.29.52.1
domain ipv4 host ce29 172.29.52.178
domain ipv4 host pe21 172.29.52.163
domain ipv4 host pe22 172.29.52.219
domain ipv4 host ce28_nme 172.29.52.177
domain ipv4 host ce29_nme 172.29.52.179
domain lookup disable
username P2_CRS-8
 password 7 <removed>
!
aps group 1
 revert 1
 channel 0 local SONET0/1/4/3
 channel 1 local SONET0/1/4/2
!
vty-pool default 0 25
alias cr copy run disk0:/usr/P1_base_config
alias sa show alias
alias sc show config commit list
alias sd show diag
alias si show ip int brief
alias sl show led
alias sm show mpls forwarding
alias sp show platform
alias sr show run
alias su show users
```

```
alias sv show version
alias sir show ip route
control-plane
 management-plane
  inband
   interface all
    allow all
   !
  !
 !
!
ipv4 virtual address 172.29.52.72 255.255.255.0
hw-module service sbc location 0/4/CPU0
hw-module service sbc location 0/4/CPU1
interface Bundle-Ether28
 description Connected to P2_CRS-8 Bundle-Ether 28
 ipv4 address 10.12.28.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 1000000
!
interface Bundle-Ether28.1
 description Connected to P2_CRS-8 Bundle-Ether 28.1
 ipv4 address 10.12.29.1 255.255.255.0
 dot1q vlan 29
!
interface Bundle-Ether28.2
 description Connected to P2_CRS-8 Bundle-Ether 28.2
 ipv4 address 10.12.30.1 255.255.255.0
 dot1q vlan 30
!
interface Bundle-Ether28.3
 description Connected to P2_CRS-8 Bundle-Ether 28.3
 ipv4 address 10.12.31.1 255.255.255.0
 dot1q vlan 31
!
interface Bundle-POS24
 description Connected to P2_CRS-8 Bundle-POS 24
 ipv4 address 10.12.24.1 255.255.255.0
 bundle minimum-active links 1
 bundle minimum-active bandwidth 2488320
!
interface Loopback0
 ipv4 address 10.1.1.1 255.255.255.255
!
interface MgmtEth0/4/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.46 255.255.255.0
!
interface MgmtEth0/4/CPU1/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.47 255.255.255.0
!
interface MgmtEth0/RP0/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.70 255.255.255.0
!
interface MgmtEth0/RP1/CPU0/0
 description Connected to Lab LAN
 ipv4 address 172.29.52.71 255.255.255.0
!
interface GigabitEthernet0/1/5/0
 description Connected to P2_CRS-8 GE 0/1/5/0
 ipv4 address 10.12.16.1 255.255.255.0
!
```

```
interface GigabitEthernet0/1/5/1
 description Connected to P4_C12810 GE 5/2
 ipv4 address 10.14.8.1 255.255.255.0
!
interface GigabitEthernet0/1/5/2
 description Connected to PE6_C12406 GE 0/4/0/1
 ipv4 address 10.16.4.1 255.255.255.0
!
interface GigabitEthernet0/1/5/3
 shutdown
!
interface GigabitEthernet0/1/5/4
 shutdown
!
interface GigabitEthernet0/1/5/5
 shutdown
!
interface GigabitEthernet0/1/5/6
 description Connected to P2_CRS-8 GE 0/1/5/6
 bundle id 28 mode active
!
interface GigabitEthernet0/1/5/7
 description Connected to P2_CRS-8 GE 0/1/5/7
 bundle id 28 mode active
!
interface GigabitEthernet0/6/5/0
 shutdown
!
interface GigabitEthernet0/6/5/1
 description Connected to P2_CRS-8 GE 0/6/5/1
 ipv4 address 10.12.20.1 255.255.255.0
!
interface GigabitEthernet0/6/5/2
 description Connected to PE6_C12406 GE 0/4/0/2
 ipv4 address 10.16.8.1 255.255.255.0
!
interface GigabitEthernet0/6/5/3
 shutdown
!
interface GigabitEthernet0/6/5/4
 shutdown
!
interface GigabitEthernet0/6/5/5
 shutdown
!
interface GigabitEthernet0/6/5/6
 shutdown
!
interface GigabitEthernet0/6/5/7
 description Connected to P2_CRS-8 GE 0/6/5/7
 ipv4 address 10.12.40.1 255.255.255.0
!
interface POS0/1/0/0
 shutdown
!
interface POS0/1/0/1
 description Connected to P2_CRS-8 POS 0/1/0/1
 ipv4 address 10.12.8.1 255.255.255.0
!
interface POS0/1/0/2
 shutdown
!
interface POS0/1/0/3
 shutdown
```

```
!
interface POS0/1/4/0
 description Connected to P2_CRS-8 POS 0/1/4/0
 bundle id 24 mode active
!
interface POS0/1/4/1
 description Connected to P2_CRS-8 POS 0/1/4/1
 bundle id 24 mode active
!
interface POS0/1/4/2
 description Connected to P2_CRS-8 POS 0/1/4/2
 ipv4 address 10.12.32.1 255.255.255.0
 encapsulation ppp
 ppp pap sent-username P1_CRS-8 password encrypted <removed>
 ppp authentication chap pap
 ppp chap password encrypted <removed>
!
interface POS0/1/4/3
```

show tech-support tty

To automatically run **show** commands that display information specific to tech-support information related to TTY, use the **show tech-support tty** command in EXEC mode.

show tech-support tty [{**file** *sent-to* [{**background** | **compressed** | **uncompressed** }] | **location** *node-id* | **rack** *rack-id*}]

Syntax Description

file	(Optional) Specifies that the command output is saved to a specified file.
sent-to	Name of the file. The following valid options are listed: • *filename* • **bootflash:** *filename* • **disk0:** *filename* • **disk0a:** *filename* • **disk1:** *filename* • **disk1a:** *filename* • **disk2:** *filename* • **ftp:** *filename* • **harddisk:** *filename* • **harddiska:** *filename* • **harddiskb:** *filename* • **lcdisk0:** *filename* • **lcdisk0a:** *filename* • **nvram:** *filename* • **rcp:** *filename* • **tftp:** *filename*
background	(Optional) Specifies that the command runs in the background.
compressed	(Optional) Displays compressed command output.
uncompressed	(Optional) Displays the command output with no compression.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
rack *rack-id*	(Optional) Specifies a list of racks. The *rack-id* denotes a rack number.

Command Default

The command output is not compressed.

Command Modes

EXEC mode

Command History

Release	Modification
Release 4.3.0	This command was introduced.

Usage Guidelines

Tip This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support tty** command to run **show** commands that display information specific to tty debugging. This command generates tty debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

Note This command is not required during normal use of the router.

Task ID

Task ID	Operation
cisco-support	read

Example

The following example shows the output of the **show tech-support tty** command:

```
RP/0/RP0/CPU0:router# show tech-support tty
Tue Sep  4 09:41:21.414 UTC
++ Show tech start time: 2012-Sep-04.094121.UTC ++
Tue Sep 04 09:41:22 UTC 2012 Waiting for gathering to complete
.............................
Tue Sep 04 09:44:31 UTC 2012 Compressing show tech output
Show tech output available at 0/RP0/CPU0 :
harddisk:/showtech/showtech-tty-2012-Sep-04.094121.UTC.tgz
++ Show tech end time: 2012-Sep-04.094432.UTC ++
```

show tty details

To display TTY session information, use the **show tty details** command in the EXEC mode.

show tty details [{**location** *node-id*}]

Syntax Description

location	*node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
Release 4.3.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
tty-access	read

Example

The following example shows output of the **show tty details** command:

```
RP/0/RP0/CPU0:router# show tty details
Mon Sep  3 08:18:19.057 UTC

   Session Id     Exec Pid      Master Pid       PTY Count       Net Count      IBuf Count
Con         0     39280825            ----            ----            ----            ----

Aux         0         8201            ----            ----            ----            ----

   Session Id     Exec Pid      Master Pid       PTY Count       Net Count      IBuf Count
VTY         0      1077467         1077452             642           40582             655
```

The following example shows output of the **show tty details location 0/RP0/CPU0** command:

```
RP/0/RP0/CPU0:router# show tty details location 0/RP0/CPU0
Mon Sep  3 08:20:29.469 UTC

   Session Id     Exec Pid      Master Pid       PTY Count       Net Count      IBuf Count
Con         0     39280825            ----            ----            ----            ----

Aux         0         8201            ----            ----            ----            ----

   Session Id     Exec Pid      Master Pid       PTY Count       Net Count      IBuf Count
VTY         0      1077467         1077452             642           40582             655
```