Advanced System Command Reference for Cisco NCS 6000 Series Routers

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-30994-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: http://www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

© 2013 Cisco Systems, Inc. All rights reserved.

CONTENTS

Preface

This Preface contains these sections:

Changes to This Document

This table lists the technical changes made to this document since it was first printed.

Table 1: Changes to This Document

Revision	Date	Change Summary
OL-30994-01	November 2013	Initial release of this document.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*, at: http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

ASIC Driver Commands

This module describes the commands used to configure and monitor the application-specific integrated circuit (ASIC) driver on a router running Cisco IOS XR software.

clear controller pse statistics

To clear statistics maintained by the packet switching engine (PSE) on a specific node, use the **clear controller pse statistics** command in XR EXEC mode.

clear controller pse statistics summary instance *instance-number* **location** *node-id*

Syntax Description

location *node-id*	Identifies the location of the node whose PSE device statistics you want to clear. The *node-id* argument is expressed in the *rack/slot/module* notation. **Note** Use the **show platform** command to see the location of all nodes installed in the router.
instance *instance-number*	Replace the *instance-number* argument with a device instance number. The range is from 0 to 16.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read, write
drivers	read

Examples

The following example shows how to clear all PSE statistics on a specific node (0/5/CPU0):

```
RP/0/RP0/CPU0:router# clear controller pse statistics summary instance 0 location 0/5/CPU0
```

Related Commands

Command	Description
show controllers pse eio links	Displays packet switching engine information for Elastic I/O links.
show controllers pse ipc	Displays packet switching engine device information for interprocess communication connections, or for a specific IPC controller.
show controllers pse mp	displays packet switching engine information for the maintenance processor on a specific controller or node.
show controllers pse statistics, on page 51	Displays packet switching engine statistics for a specific controller instance.
show controllers pse summary, on page 53	Displays a summary of packet switching engine information for a specific controller or node.

show controllers cpuctrl cdma channel

To display information about the CPU controller Control Direct-Memory-Access (CDMA) engine, use the **show controllers cpuctrl cdma channel** command in XR EXEC mode.

show controllers cpuctrl cdma channel {**0**| **3**} **queue** {*queue-id*| **all**} {**active**| **detail**} [**location** *node-id*]

Syntax Description

{**0** | **3**}	Displays CPU controller CDMA engine information for the specified channel. Enter **0** to display CDMA engine information for channel 0, or enter **1** to display CDMA engine information for channel 1.
queue {*queue-id* | **all**}	Displays CDMA information for a specific Direct-Memory-Access (DMA) queue, or for all DMA queues on the specified channel. • Enter the **queue all keywords** to display CDMA information for all DMA queues on the specified channel. • Enter the **queue**keyword and *queue-id argument* to display CDMA information for a specific queue. Replace the *queue-id* argument with a queue number. Range is from 1 through 7.
active	Displays descriptions for active DMA queues only.
detail	Displays descriptions for any DMA queues, regardless of whether they are active.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller CDMA information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows partial output from the **show controllers cpuctrl cdma channel** command with the **active** keyword.

```
RP/0/RP0/CPU0:router# show controllers cpuctrl cdma channel all active

Mon Nov  9 23:13:08.235 PST
-------------------------------------------------------
DMA queue:
Channel: 0     queue: 0        state: Inactive

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 1        state: Active

       OS Interrupt Level =        108   Cpuctrl Int Level =         12
          OS Run Priority =         45       client handle =          1
              ISR context = 0x9c35c49c  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =          3  Queue create count =          1
         DMA transactions =          3   Bytes transferred =      67584

     DMA Out of Desc errs =          0             DMA IWA =          0
     DMA transaction errs =          0

Descriptor list base addr = 0xe4037300    Physical address = 0x76037300
                list_size =         32  Active descriptors =          0
            current_index =          3    tx_enqueue_index =          3

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 2        state: Inactive

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 3        state: Active

       OS Interrupt Level =        107   Cpuctrl Int Level =         11
          OS Run Priority =         30       client handle =          0
              ISR context = 0x9c35cd84  Pakman/Bufman Inst = bufman/mipc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000005           Pollflags = 0x00000000
   Total DMA transactions =     115622  Queue create count =          1
         DMA transactions =     115622   Bytes transferred =   10213420

     DMA Out of Desc errs =          0             DMA IWA =          0
     DMA transaction errs =          0

Descriptor list base addr = 0xe4051100    Physical address = 0x76051100
                list_size =        256  Active descriptors =          0
            current_index =        166    tx_enqueue_index =        166

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 4        state: Active

       OS Interrupt Level =        113   Cpuctrl Int Level =         17
```

```
          OS Run Priority =          45       client handle =           5
              ISR context = 0x9c35c748  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =        321  Queue create count =           1
         DMA transactions =        321   Bytes transferred =       42594

     DMA Out of Desc errs =          0             DMA IWA =           0
     DMA transaction errs =          0

Descriptor list base addr = 0xe40d2068    Physical address = 0x760d2068
                list_size =       1023  Active descriptors =           0
            current_index =        321    tx_enqueue_index =         321

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 5        state: Active

       OS Interrupt Level =        111   Cpuctrl Int Level =          15
          OS Run Priority =         45       client handle =           3
              ISR context = 0x9c35cad8  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =        376  Queue create count =           1
         DMA transactions =        376   Bytes transferred =        7674

     DMA Out of Desc errs =          0             DMA IWA =           0
     DMA transaction errs =          0

Descriptor list base addr = 0xe4047110    Physical address = 0x76047110
                list_size =        128  Active descriptors =           0
            current_index =        120    tx_enqueue_index =         120

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 6        state: Active

       OS Interrupt Level =        112   Cpuctrl Int Level =          16
          OS Run Priority =         45       client handle =           6
              ISR context = 0x9c35c9f4  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =        306  Queue create count =           1
         DMA transactions =        306   Bytes transferred =      394340

     DMA Out of Desc errs =          0             DMA IWA =           0
     DMA transaction errs =          0

Descriptor list base addr = 0xe40d7068    Physical address = 0x760d7068
                list_size =       1023  Active descriptors =           0
            current_index =        306    tx_enqueue_index =         306

-------------------------------------------------------
DMA queue:
Channel: 0     queue: 7        state: Active

       OS Interrupt Level =        110   Cpuctrl Int Level =          14
          OS Run Priority =         45       client handle =           4
              ISR context = 0x9c35c580  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4cad1130    cleanup function = 0x4cad058c
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =     140344  Queue create count =           1
         DMA transactions =     140344   Bytes transferred = 2344779856

     DMA Out of Desc errs =          0             DMA IWA =           0
     DMA transaction errs =          0

Descriptor list base addr = 0xe40cd068    Physical address = 0x760cd068
                list_size =       1023  Active descriptors =           0
            current_index =        193    tx_enqueue_index =         193

-------------------------------------------------------
DMA queue:
```

```
Channel: 1     queue: 0        state: Inactive

-------------------------------------------------------
DMA queue:
Channel: 1     queue: 1        state: Active

       OS Interrupt Level =        108   Cpuctrl Int Level =         12
          OS Run Priority =         45       client handle =          1
              ISR context = 0x9c35c49c  Pakman/Bufman Inst = bufman/misc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000002           Pollflags = 0x00000000
   Total DMA transactions =          3  Queue create count =          1
         DMA transactions =          3   Bytes transferred =      67584

     DMA Out of Desc errs =          0             DMA IWA =          0
     DMA transaction errs =          0

Descriptor list base addr = 0xe40370f0    Physical address = 0x760370f0
               list_size =         32  Active descriptors =          0
           current_index =          3    tx_enqueue_index =          3

-------------------------------------------------------
DMA queue:
Channel: 1     queue: 2        state: Inactive

-------------------------------------------------------
DMA queue:
Channel: 1     queue: 3        state: Active

       OS Interrupt Level =        106   Cpuctrl Int Level =         10
          OS Run Priority =         30       client handle =          0
              ISR context = 0x9c35ce68  Pakman/Bufman Inst = bufman/mipc
 client callback function = 0x4c60df28    cleanup function = 0x4c60ded8
                  Pakmode = 0x00000005           Pollflags = 0x00000000
   Total DMA transactions =     114238  Queue create count =          1
         DMA transactions =     114238   Bytes transferred =    8686924

     DMA Out of Desc errs =          0             DMA IWA =          0
     DMA transaction errs =          0

Descriptor list base addr = 0xe4052110    Physical address = 0x76052110
               list_size =        256  Active descriptors =          0
           current_index =         62    tx_enqueue_index =         62
--More--
```

This table describes the significant fields shown in the display.

Table 2: show controllers cpuctrl cdma channel Field Descriptions

Field	Description
DMA queue	Identifies the DMA[1] queue.
Channel	Identifies the channel whose DMA queue is displayed. 0 is the ingress channel, and 1 is the egress channel
queue	Identifies the queue.
state	Current state of the queue.
OS Interrupt Level	Current interrupt level for the queue.
Cpuctrl Interrupt Level	Current interrupt level for the CPU controller.

Field	Description
OS Run Priority	Run priority level for this queue.
client handle	Internal identifier for the Cisco client.
ISR context	Internal information about the location of the ISR2 pointer.
Pakman/Bufman Instance	Internal information about the location of the Pakman and Bufman Instance.
client callback function pointer	Internal information about the client callback function pointer.
cleanup function	Internal information about the client cleanup function pointer.
Queue Created 1 times	Number of times this queue was regenerated.
Pakmode	Information about internal data structures and parameters.
Pollflags	Specifies whether the CDMA queue uses a polling or interrupt-driven approach for detecting CDMA operation completion notification. **Note** Currently, CDMA queues use interrupt driven completion only. PDMA queues use interrupt-driven and polling completion.
Total DMA transactions	Number of DMA transactions in the queue.
Queue create count	Number of times this queue was regenerated.
DMA transactions	Number of DMA transactions in the queue.
Bytes transferred	Number of bytes that have been transferred by the Control Direct-Memory-Access engine.
DMA Out of Desc errs	Number of DMA errors in the queue.
CDMA transactions	Number of CDMA transactions in the queue.
DMA IWA	Number of IWA bytes that have been processed by the Direct-Memory-Access engine.
DMA transaction errs	Number of DMA transactions that had errors.
Descriptor list base addr	Internal information about the location of the descriptor list.

Field	Description
Physical address	Physical address of the CPU memory that holds the descriptors in the ring used by the CDMA queue hardware.
list_size	Total number of descriptors in the ring used by the CDMA queue hardware.
Active descriptors	Number of descriptors that have transactions that are not cleaned after being notified of their completion. Note that the hardware may not yet have completed these transactions.
current_index	Points to the next descriptor that the hardware is expected to complete.
tx_enqueue_index	Points to the descriptor that will be added to the next operation request.
Index	Location of the descriptor in the ring.
Shadow	Internal field that manages requests that have been split into multiple descriptors.
Hdr	Internal field that manages requests that have been split into multiple descriptors.
Flags	Internal field that manages requests that have been split into multiple descriptors.
Descriptor	Descriptor heading.
Width	Width of the data on the ASIC side in bits. The DMA stride is rounded up to the next power of two bytes that contains this number of bits.
Bufsize	Size of the buffer used for the transfer.
Xfersize	Number of bytes on the CPU memory that are occupied by the transfer.
Memaddr	36 bit physical address of the CPU memory in the transfer.
Squidaddr	40 bit address of the ASIC register or memory in the transfer.

[1] Direct Memory Access

Related Commands

Command	Description
show controllers cpuctrl clients, on page 11	Displays information about all CPU controller clients on the router, or for specific CPU controller clients.

show controllers cpuctrl clients

To display information about all CPU controller clients on the router, or for specific CPU controller clients, use the **show controllers cpuctrl clients** command in XR EXEC mode.

show controllers cpuctrl clients {**all**| **cdma** *clients* {**active**| **detail**}| **pdma** *clients* {**active**| **detail**}| **device** *drivers*| **udma** *clients*} [**location** *node-id*]

Syntax Description

all	Displays a summary information for all clients on the router.
cdma *clients*	Displays information about Control Direct-Memory-Access (CDMA) clients only. Replace the *clients* argument with one of the following keywords: • **egressq—**Displays information for the egressq client. • **fabricq—**Displays information for the Fabricq ASIC client. • **fia—**Displays information for the Fabric Interface ASIC (FIA) client. • **ingressq—**Displays information for the ingressq ASIC client. • **jacketcard—**Displays information for the jacketcard client. • **mipc—**Displays information for the Metro Inter-Process-Communication (MIPC) client. • **npu—**Displays information for the NPU ASIC client. • **pla768—**Displays information for the ASIC client for OC-768. • **plaspa—**Displays information for the ASIC client for the SPA. • **plim—**Displays information for the PLIM client. • **plimasic—**Displays information for the PLIM ASIC client. • **pse—**Displays information for the PSE client.
device *drivers*	Displays device driver information. Replace *drivers* with one of these options: • **ccsq—**Displays information for the CCSQ ASIC driver. • **egressq—**Displays information for the Egressq ASIC driver. • **fabricq—**Displays information for the Fabricq ASIC driver. • **fia—**Displays information for the Fia ASIC driver. • **ingressq—**Displays information for the Ingressq ASIC driver. • **npu—**Displays information for the NPU ASIC driver. • **pla—**Displays information for the PLIM ASIC driver. • **pse—**Displays information for the Packet Switching Engine (PSE) ASIC driver.

pdma *clients*	Displays information for Packet Direct-Memory-Access (PDMA) clients only. Replace *clients* with one of the following keywords: • **bfd—**Displays information for the client bidirectional forwarding detection (BFD) PDMA packet. • **diag—**Displays information for the PDMA client called DIAG packet. • **fabio—**Displays information for the FABIO PDMA packet client. • **fia—**Displays information for the fabric interface ASIC packet PDMA client. • **frr—**Displays information for the fast reroute (FRR) packet PDMA client. • **gsp—**Displays information for the Group Services Packet (GSP) PDMA client. • **mipc—**Displays information for the MIPC packet PDMA client. • **mstats—**Displays information for the MSTATS packet PDMA client. • **netflow—**Displays information for the NetFlow packet PDMA client. • **spp—**Displays information for the SPP packet PDMA client.
udma *clients*	Displays information for Upload Direct Memory Access (UDMA) clients only. Replace *clients* with one of the following keywords: • **egressq—**Displays information for the Egressq ASIC client. • **fabricq—**Displays information for the Fabricq ASIC client. • **fia—**Displays information for the Fia ASIC client. • **ingressq—**Displays information for the Ingressq ASIC client. • **npu—**Displays information for the NPU ASIC client. • **pla—**Displays information for the PLIM ASIC client. • **psc—**Displays information for the Packet Switching Engine (PSE) ASIC client. • **statsrm—**Displays information for the stat resource manager client.
active	Displays descriptions for active queues only.
detail	Displays descriptions for any queues, regardless of whether or not they are active.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default No default behavior or values

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display information about all the CPU controller clients:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl clients all

-----------------------------------------
Client Type: PDMA       Client Name: FabIO
 Client PID: 2143     Client Handle: 4
Queue Count: 8       PDMA ISR Count: 0


-----------------------------------------
Client Type: PDMA       Client Name: BFD
 Client PID: 2747     Client Handle: 7
Queue Count: 2       PDMA ISR Count: 2


-------------------------------------------------
   Client Type: UDMA           Client Name: NPU
    Client PID: 2203         Client Handle: 25
UDMA ISR Count: 1       UDMA Context Count: 1


-------------------------------------------------
   Client Type: UDMA           Client Name: STATSRM
    Client PID: 2712         Client Handle: 31
UDMA ISR Count: 1       UDMA Context Count: 1
-----------------------------------------
Client Type: PDMA       Client Name: FabIO
 Client PID: 2143     Client Handle: 4
Queue Count: 8       PDMA ISR Count: 0


-----------------------------------------
Client Type: PDMA       Client Name: BFD
 Client PID: 2747     Client Handle: 7
Queue Count: 2       PDMA ISR Count: 2


-------------------------------------------------
   Client Type: UDMA           Client Name: NPU
    Client PID: 2203         Client Handle: 25
UDMA ISR Count: 1       UDMA Context Count: 1
```

```
-------------------------------------------------
   Client Type: UDMA           Client Name: STATSRM
    Client PID: 2712         Client Handle: 31
UDMA ISR Count: 1       UDMA Context Count: 1


-----------------------------------------------
   Client Type: DEVICE         Client Name: NPU
    Client PID: 2203         Client Handle: 25
  Device Count: 2         Device ISR Count: 1
UDMA ISR Count: 0
```

This table describes the significant fields shown in the display.

Table 3: show controllers cpuctrl clients Field Descriptions

Field	Description
client_name	Name of the client.
client_handle	Internal client identifier.
isr_count	ISR[2] counters.
queue_count	Queue counters.
client_pid	Client PID[3].

2 Interrupt Service Routine
3 Process Identifier

Related Commands

Command	Description
show controllers cpuctrl cdma channel, on page 4	Displays information about the CPU controller CDMA engine.
show controllers cpuctrl summary, on page 28	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl devices

To display information about the CPU controller devices on the router, use the **show controllers cpuctrl devices** command in XR EXEC mode.

show controllers cpuctrl devices *device-name* {**pdma queue** {*queue-number* **direction** {**all**| **tx**| **rx**}| **all**} {**active**| **detail**}| **pio**} [**location** *node-id*]

Syntax Description

device-name	Displays information about a specific CPU controller device. Replace the *device-name argument* with one of the following device names: • **fia instance 0—**Displays information about the Fabric Interface ASIC (FIA) instance 0. • **fia instance 1—**Displays information about the FIA instance 1. • **npu instance 0—**Displays information about the NPU ASIC instance 0. • **npu instance 1—**Displays information about the NPU ASIC instance 1. • **npu instance 2—**Displays information about the NPU ASIC instance 2. • **npu instance 3—**Displays information about the NPU ASIC instance 3. • **npu instance 4—**Displays information about the NPU ASIC instance 4.
pdma queue*queue-number*	Displays Packet Direct-Memory-Access (PDMA) information for the specified queue. Replace the *queue-number* argument with a queue number. The range is from 0 to 15.
pdma queueall	Displays PDMA information for all queues.
direction all	Displays transmit and receive PDMA information for all queues.
direction tx	Displays transmit PDMA information.
direction rx	Displays receive PDMA information.
active	Displays descriptions for active queues only.
detail	Displays detailed descriptions for any queues, regardless of whether they are active.
pio	Displays transmit and receive Polled I/O (PIO) information for the specified queue.
location *node-id*	(Optional) Identifies the location of the node whose CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default No default behavior or values

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples The following example shows how to display transmit and receive PDMA information for all active queues on the egressq ASIC instance 0:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl devices egressq pdma queue all active location
 0/6/CPU0

------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 0        state: Active

       OS Interrupt Level =        127   Cpuctrl Int Level =         31
          OS Run Priority =         10       client handle =          6
              ISR context = 0x7810c1c8  Pakman/Bufman Inst = pakman/server
 client callback function = 0x48200298    cleanup function = 0x482002bc
                  Pakmode = 0x00000001           Pollflags = 0x00000000
Total Packets transmitted =     660089  Queue create count =          1
      Packets transmitted =     660089   Bytes transmitted =   17166002

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0

Descriptor list base addr = 0xec348068    Physical address = 0x30348068
                list_size =       1024  Active descriptors =          0
            current_index =        633    tx_enqueue_index =        633

------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 1        state: Inactive

------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 2        state: Inactive
```

```
-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 3        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 4        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 0 (Egressq   )     queue: 5        state: Inactive

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 6        state: Active

       OS Interrupt Level =        118   Cpuctrl Int Level =         22
          OS Run Priority =         10       client handle =          2
              ISR context = 0x7810cf24  Pakman/Bufman Inst = bufman/ipc
 client callback function = 0xfc71d604    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000005           Pollflags = 0x00000000
Total Packets transmitted =          0  Queue create count =          1
      Packets transmitted =          0   Bytes transmitted =          0

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0

Descriptor list base addr = 0xec07a110    Physical address = 0x3007a110
                list_size =        256  Active descriptors =          0
            current_index =          0    tx_enqueue_index =          0

-------------------------------------------------------
TX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 7        state: Active

       OS Interrupt Level =        119   Cpuctrl Int Level =         23
          OS Run Priority =         40       client handle =          9
              ISR context = 0x7810d008  Pakman/Bufman Inst = pakman/sever
 client callback function = 0xfc71d604    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000001           Pollflags = 0x00000000
Total Packets transmitted =          0  Queue create count =          1
      Packets transmitted =          0   Bytes transmitted =          0

Tx Out of Descriptor errs =          0              Tx IWA =          0
         Tx oversize errs =          0  Tx EgressQ q0 errs =          0

Descriptor list base addr = 0xed63a068    Physical address = 0x3163a068
                list_size =       1024  Active descriptors =          0
            current_index =          0    tx_enqueue_index =          0

-------------------------------------------------------
RX PKT queue:
cpuctrl net Port: 7 (Egressq   )     queue: 0        state: Active

       OS Interrupt Level =        121   Cpuctrl Int Level =         25
          OS Run Priority =         10       client handle =          8
              ISR context = 0x7810d0ec  Pakman/Bufman Inst = bufman/misc
 client callback function = 0xfc71d550    cleanup function = 0xfc71d6b8
                  Pakmode = 0x00000001           Pollflags = 0x00000000
 Requested Rx Buffer Size =       1024  Packet switchcount =         20
    Actual Rx Buffer Size =       1648               Pool =          4
                      MTU =      12188     MTU Descriptors =          8
   Total Packets received =      71080  Queue create count =          1
         Packets received =      71080      Bytes received =  858219920

        Rx No Buffer errs =          0  NoBufferLimit errs =          0
 Rx No Packet Header errs =          0    Packet Form errs =          0
           Rx Packet errs =          0
       Rx Intr Stall errs =          0   Rx Intr Drop errs =          0

Descriptor list base addr = 0xec05c940    Physical address = 0x3005c940
                list_size =        128  Active descriptors =          0
```

```
            current_index =          64     tx_enqueue_index =          64
--More--
```

This table describes the significant fields shown in the display.

Table 4: show controllers cpuctrl devices Field Descriptions

Field	Description
PKT queue	Displays whether the packet queue is TX[4] or RX[5].
cpuctrl net Port	Identifies the CPU controller port.
queue	Identifies the queue whose CPU controller device information is displayed.
client handle	Internal Cisco client identifier.
queue state	Current state of the queue. The queue can be *Active* or *Inactive*.

4 transmit
5 receive

Related Commands

Command	Description
show controllers cpuctrl summary, on page 28	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl error

To display the squid error information about the CPU controller, use the **show controllers cpuctrl error** command in XR EXEC mode.

show controllers cpuctrl error [detail] [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Identifies the location of the node whose internal CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.
detail	(Optional) Displays detailed squid error information about the CPU controller.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display squid error information about the CPU controller:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl error detail

Errors for node : 0/4/CPU1

    INTERNAL ERRORS:
    ================
                Error Interrupts =       2000
```

```
==============================================================================
RP/0/RP0/CPU0:router#show controllers cpuctrl error detail
Tue Jul 21 04:15:02.632 DST

Errors for node : 0/4/CPU1

    INTERNAL ERRORS:
    ================
                 Error Interrupts =       2000
        Spurious Error Interrupts =          0
                SN overflow count =          0
                PM overflow count =          0
               PCIX overflow count =         0
                ISN overflow count =         0
               Port overflow count =         0
                Log overflow count =         0

==============================================================================
```

show controllers cpuctrl internal

To display internal information about the CPU controller, use the **show controllers cpuctrl internal** command in XR EXEC mode.

show controllers cpuctrl internal [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Identifies the location of the node whose internal CPU controller information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display internal information about the CPU controller:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl internal

Cpuctrl Internal Info for node 0/0/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x8357ffff  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
```

```
        cpuctrl version info: Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 ykoren


Cpuctrl Internal Info for node 0/3/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x8357ffff  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.07 Fri Jan 23 16:21:01 2004 ykoren


Cpuctrl Internal Info for node 0/RP0/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x803f007f  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.07 Fri Feb 6 17:49:22 2004 ykoren

Cpuctrl Internal Info for node 0/RP1/CPU0:
        Error Interrupts = 0    Spurious Error Interrupts = 0
        PCI Error Overflows = 0         PCI PM Error Overflows = 0
        PCIX Error Overflows = 0        Internal Access PCI Overflows = 0
        Port Error Overflows = 0        Error Log Overflows = 0
        cpuctrl Config Reg = 0x003f007f  cpuctrl Physical Offset = 0x80000000
        cpuctrl Window Size = 0x40000000 cpuctrl Port Window Size = 0x04000000
        cpuctrl SHMem Size = 0x00800000  cpuctrl SHMem Used = 0x00223ee8
        cpuctrl version info: Squid FPGA v2.05 Wed Sep 3 17:37:47 2003 ykoren
```

This table describes the significant fields shown in the display.

Table 5: show controllers cpuctrl internal Field Descriptions

Field	Description
Error Interrupts	Total of error interrupts that have occurred on this node.
Spurious Error Interrupts	Current number interrupts that have occurred on this node due to spurious errors.
PCI Error Overflows	Number of times the PCI1 error buffer overflowed on the node.
PCI PM Error Overflows	Number of times PCI PM2 error buffer overflowed on this node.
PCIX Error Overflows	Number of times the PCI-X error buffer overflowed on this node.
Internal Access PCI Overflows	Number of times the Internal Access PCI buffer overflowed on this node.
Port Error Overflows	Number of times the port error buffer overflowed on this node.

Field	Description
Error Log Overflows	Number of times the error log buffer overflowed on this node.
cpuctrl Config Reg	CPU controller configuration register, expressed in hexadecimal format.
cpuctrl Physical Offset	CPU controller physical offset, expressed in hexadecimal format.
cpuctrl Window Size	CPU controller window size, expressed in hexadecimal format.
cpuctrl Port Window Size	CPU controller port window size, expressed in hexadecimal format.
cpuctrl SHMem Size	CPU controller shared memory size, expressed in hexadecimal format.
cpuctrl SHMem Used	CPU controller shared memory that has been used already, expressed in hexadecimal format.
cpuctrl version info	Provides version information for the CPU controller. The information displayed is: • Squid version • Date of the last version installation or upgrade

[6] [7]

Related Commands

Command	Description
show controllers cpuctrl summary, on page 28	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

[6] 1. Peripheral Component Interconnect

[7] 2. port manager

show controllers cpuctrl ports

To display port information for the specified CPU controller ASIC, use the **show controllers cpuctrl ports** command in XR EXEC mode.

show controllers cpuctrl ports *asic_id* {**pdma queue** {*queue-id*| **all**} **direction** {**all**| **rx**| **tx**} {**active**| **detail**}| **pio**} [**location** *node-id*]

Syntax Description

asic_id	Identifies the CPU controller ASIC whose port information you want to display. Replace the *asic_id* argument with one of the following keywords: • **fia instance 0—**Displays port information for instance 0 of the fabric Interface ASIC (FIA). • **fia instance 1—**Displays port information for instance 1 of the FIA. • **npu instance 0—**Displays port information for instance 0 of the NPU. • **npu instance 1—**Displays port information for instance 1 of the NPU. • **npu instance 2—**Displays port information for instance 2 of the NPU. • **npu instance 3—**Displays port information for instance 3 of the NPU. • **npu instance 4—**Displays port information for instance 4 of the NPU.
pdma queue *queue-id*	Displays transmit and receive Packet Direct-Memory-Access (PDMA) information for the specified queue.
pdma queue all	Displays transmit and receive PDMA information for all queues. The information displayed pertains to the ASIC indicated in the **show controllers cpuctrl ports** command.
direction all	Displays transmit and receive Packet Direct-Memory-Access (PDMA) information for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
direction rx	Displays receive PDMA information only for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
direction tx	Displays transmit PDMA information only for the specified queue. The information displayed pertains to the ASIC you specified for the *asic_id* argument.
active	Displays descriptions for active queues only.
detail	Displays descriptions for any queues, regardless of whether they are active.
pio	Displays transmit and receive Polled I/O (PIO) information for the specified queue.

location *node-id*	(Optional) Identifies the location of the node whose CPU controller port information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display port information for the transmit and receive PIO queues on the EPSE ASIC:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl ports epse pio

client name: PSE                device instance: 1
cpuctrl net port: 6             pci base: 0x98000000
map reg: 0x6076a12c             OS interrupt level: 102
Cpuctrl interrupt level: 6      OS Run priority: 6
config reg: 0x00000000          channels reg: 0x00000000
int_cause_asic_mask: 0x00000010 int_cause_error_mask: 0x00000020
int_cause_link_error_mask: 0x00000040
crc_errors: 0   sync_errors: 0  reframe_events: 0


client name: PSE                device instance: 1
cpuctrl net port: 6             pci base: 0x98000000
map reg: 0x6076a12c             OS interrupt level: 102
Cpuctrl interrupt level: 6      OS Run prority: 6
config reg: 0x00000000          channels reg: 0x00000000
int_cause_asic_mask: 0x00000010 int_cause_error_mask: 0x00000020
int_cause_link_error_mask: 0x00000040
crc_errors: 0   sync_errors: 0  reframe_events: 0
```

```
device PSE instance 1 is not detected on node 201/
```

This table describes the significant fields shown in the display.

Table 6: show controllers cpuctrl ports Field Descriptions

Field	Description
client name	Identifies the client whose port CPU controller information is displayed.
device instance	The client device instance for which the port CPU controller information is displayed.
cpuctrl net port	Identifies the CPU controller net port.
pci base	PCI[8] base.
map reg	Client map register.
OS interrupt level	Level of interrupt configured for the port. Interrupts are triggered by arrival of a packet that causes the CPU to postpone other tasks and handle the packet.
Cpuctrl interrupt level	Level of CPU controller interrupt configured for the port.
OS Run priority	Software priority.
config reg	Configuration register, expressed in hexadecimal format.
channels reg	Channel register, expressed in hexadecimal format.
int_cause_asic_mask	Internal ASIC masking information.
int_cause_error_mask	Internal error masking information.
int_cause_link_error_mask	Internal link error masking information.
crc_errors	Number of CRC[9] errors that have occurred on this port.
sync_errors	Number of synchronization errors that have occurred on this port.
reframe_events	Number of reframe events that have occurred on this port.

8 Peripheral Component Interconnect
9 cyclic redundancy check

Related Commands

Command	Description
show controllers cpuctrl summary, on page 28	Displays summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node.

show controllers cpuctrl summary

To display summarized information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node, use the **show controllers cpuctrl summary** command in XR EXEC mode.

show controllers cpuctrl summary [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Identifies the location of the node whose CPU controller ASIC information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read
interface	read

Examples

The following example shows how to display summarized information about all the ASICs accessed through the CPU controller ASICs on a specific node:

```
RP/0/RP0/CPU0:router# show controllers cpuctrl summary location 0/5/CPU0

Cpuctrl discovered 2 device on node 0/5/CPU0

------------------------------------------------
 Device Name: NPU     Device Instance: 16
Cpuctrl Port: 16     PCI Base Address: 0x1000000000
            :         PCI Window Size: 0x00000000
```

```
-----------------------------------------------------
 Device Name: NPU      Device Instance: 0
Cpuctrl Port: 216     PCI Base Address: 0xd800000000
             :         PCI Window Size: 0x00000000
```

This table describes the significant fields shown in the display.

Table 7: show controllers cpuctrl summary Field Descriptions

Field	Description
device_name	Identifies the device whose CPU controller information is displayed.
device instance	Identifies the CPU device whose information is displayed.
pci_base	PCI[10] base, in hexadecimal format.

10 Peripheral Component Interconnect

Related Commands

Command	Description
show controllers cpuctrl cdma channel, on page 4	Displays information about the CPU controller CDMA engine.
show controllers cpuctrl clients, on page 11	Displays information about all CPU controller clients on the router, or for specific CPU controller clients.
show controllers cpuctrl devices, on page 15	Displays information about the CPU controller devices on the router.
show controllers cpuctrl internal, on page 21	Displays internal information about the CPU controller.
show controllers cpuctrl ports, on page 24	Displays port information for the specified CPU controller ASIC.

show controllers cpuctrl trace

To display the trace information about all the ASICs accessed through the CPU controller ASICs on the router or on a specific node, use the **show controllers cpuctrl trace** command in XR EXEC mode.

show controllers cpuctrl trace [**all**| **client**| **internal**| **queue**| **server**][**bottomhalf**] [**errors**] [**file** *file-name*] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [usec] [verbose] [wide] [wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

all	Displays the trace information of all the devices.
client	Displays all the trace information of all the cdma, discovery, pio, udma or pdma clients.
internal	Displays all internal trace information.
queue	Displays all the trace information of all the ASIC queues.
server	Displays all the server trace information.
bottomhalf	(Optional) Displays bottom-half (ISR) trace entries.
errors	(Optional) Displays all error entries.
file	(Optional) Displays a specific file.
filename	Name of a specific file.
hexdump	(Optional) Displays traces in hexadecimal format.
inits	(Optional) Displays initialization entries
last	(Optional) Displays trace information for a specific number of entries
entries	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 65536.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics in the command output.

tailf	(Optional) Displays the new traces as they are added in the command output.
timing	(Optional) Displays timing entries.
tophalf	(Optional) Displays top-half driver entries.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, thread-id.
unique	(Optional) Displays the unique entries with counts in the command output.
verbose	(Optional) Displays the information for internal debugging in the command output.
wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
drivers	read

Task ID	Operations
interface	read

Examples

```
RP/0/RP0/CPU0:router# show controllers cpuctrl trace internal unique
4 unique entries (64 possible, 0 filtered)
Oct 31 11:34:10.889 cci/internal 0/RP0/CPU0 4# t11999 INI:CCCTX:001: Internal context
(4ca46800) inititalized.  Calling HAL
Oct 31 11:34:10.895 cci/internal 0/RP0/CPU0 94# t11999 ERR:CCCTX:0f0: Case 10: Client 1f
not found
Oct 31 11:34:10.895 cci/internal 0/RP0/CPU0 94# t11999 INI:CCCLA:000: Allocated a new context
 for the client, c_ctx c36250 c_hd c36340
Oct 31 11:34:10.903 cci/internal 0/RP0/CPU0 372# t11999 INI:CCCLA:001: Found a old context
 for this client c_hd c36340
```

show controllers egressq interface

To display information about interfaces associated with an egress queue, use the **show controllers egressq interface** command in XR EXEC mode.

show controllers egressq interface*type interface-path-id*{**children location**{*node-id* | *name*}| **location** | {*node-id* | *name*}}

Syntax Description

type interface-path-id	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.
location *node-id*	Indicates that you want to display egress queue information for all interfaces in the specified **location**.
location *name*	Identifies the location of the interface whose egress queue information you want to display. Replace the *name* argument with location name.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
cisco-support	read

Examples

The following example shows how to display egress queue information for all configured interfaces on the router:

```
RP/0/RP0/CPU0:router# show controllers egressq interface HundredGigE 0/5/0/1 location
0/5/CPU0

HundredGigE0/5/0/1 Interface
------------------------------
NPU                       : 0
L2 port                   : 0
Bandwidth                 : 100000000 kbps
Root Schedule ID          : 0x3fc00
```

This table describes the significant fields shown in the display.

Table 8: show controllers egressq interface Field Descriptions

Field	Description
Interface	Interface identifier, in the *<type>rack/slot/module/port* format.
Port	Port to which the specified interface belongs.
NPU	Network Precessing Unit.

Related Commands

Command	Description
show controllers egressq eio links	Displays Elastic I/O (EIO) information for the egress queueing ASIC.
show controllers egressq group	Displays information about egress queue groups.
show controllers egressq port	Displays egress queue information for a port, or for several ports.
show controllers egressq queue, on page 35	Displays information about a specific egress queue, or a range of egress queues.
show controllers egressq statistics	Displays egress queue manager statistics.

show controllers egressq queue

To display information about a specific egress queue, or a range of egress queues, use the **show controllers egressq queue** command in XR EXEC mode.

show controllers egressq queue *queue-id* **npu** *NPU-number* **location** *node-id*

Syntax Description

queue-id	Queue you want to see. Replace *queue-id* argument with a queue number. Range is from 0 through 15.
NPU-number	Replace *NPU-number* argument with a NPU number. Range is from 0 through 15.
location *node-id*	Identifies the location of the node whose egress queue information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
Cisco-support	read

Examples

The following example shows how to display information about egress queues 11 on the CPU node in slot 5:

```
RP/0/RP0/CPU0:router# show controllers egressq queue 11 npu 0 location 0/5/CPU0

Queue
-----
```

```
Queue ID                : 11
Interface               : Punt interface
Parent Schedule Entry ID : 0xb
Queue Mode              : Enabled
Queue Empty status      : Empty
```

show controllers egressq trace

To display the internal trace buffer information for Egressq on a specific controller or node, use the **show controllers egressq trace** command in XR EXEC mode.

show controllers egressq trace {**all**| **errors**| **external**| **internal**} [**file** *file-name*| **hexdump**| **last** *numer-of-entries*| **location** *node-id*| **reverse**| **stats**| **tailf**| **unique**| **usec**| **verbose**| **wide**| **wrapping**]

Syntax Description

all	Displays the trace information for all of the egressq errors and events.
errors	Displays the trace information for all of the egressq errors.
external	Displays the trace information for all of the egressq external errors and events.
internal	Displays the trace information for all of the egressq internal errors and events.
file*file-name*	(Optional) Displays traces of a specific file name.
hexdump	(Optional) Displays traces in hexadecimal.
last	(Optional) Displays the last *n* entries.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays statistics.
unique	(Optional) Displays new traces as added.
usec	(Optional) Displays timestamp w/usec detail.
verbose	(Optional) Displasy internal debugging information.
wide	(Optional) Do not display buffer name, node name, and tid.
wrapping	(Optional) Displays wrapping entries
location*node-id*	(Optional) Identifies the location of the node whose CPU controller trace information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read
interface	read

Examples

The following example shows how to display the external trace information of Egressq for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers egressq trace external location 0/5/CPU0
92 wrapping entries (10304 possible, 320 allocated, 0 filtered, 92 total)
Nov  7 06:29:38.728 bqs/ext 0/5/CPU0 t2701 EXT: Committed client's BQS context for npu id:
 0, ifh: 0x2800018
Nov  7 06:29:38.728 bqs/ext 0/5/CPU0 t2701 EXT: Called client's queue connect callback
function for ifh: 0x2800018, seid: 0x80000001, qid: 28
Nov  7 06:29:38.728 bqs/ext 0/5/CPU0 t2701 EXT: Called client's queue connect callback
function for ifh: 0x2800018, seid: 0x80000000, qid: 29
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Committing client's BQS context for npu id:
 0, ifh: 0x2800018, update mode: Make-Break
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: -1, min:
-1, is_cond_min: False, max: -1, exc: 100, qid: 28)
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule entry for npu id: 0, ifh:
0x2800018, seid: 0x80000001, Parent sid: 0xc0000000
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: 1, min:
-1, is_cond_min: False, max: -1, exc: -1, qid: 29)
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule entry for npu id: 0, ifh:
0x2800018, seid: 0x80000000, Parent sid: 0xc0000000
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule for npu id: 0, ifh: 0x2800018,
 sid: 0xc0000000, Parent seid: 0xc0000000, num schedule entries: 0
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: -1, min:
100000000, is_cond_min: True, max: -1, exc: 100, qid: -1)
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule entry for npu id: 0, ifh:
0x2800018, seid: 0xc0000000, Parent sid: 0xa0000000
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule for npu id: 0, ifh: 0x2800018,
 sid: 0xa0000000, Parent seid: 0xa0000000, num schedule entries: 0
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: -1, min:
100000000, is_cond_min: False, max: 100100000, exc: 100, qid: -1)
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule entry for npu id: 0, ifh:
0x2800018, seid: 0xa0000000, Parent sid: 0x1ffffff
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Adding root schedule for npu id: 0, ifh:
0x2800018, intf num: 1, l2 port: 1, bw: 100000000, sid: 0x1ffffff
Nov  7 06:29:38.727 bqs/ext 0/5/CPU0 t2701 EXT: Committed client's BQS context for npu id:
 0, ifh: 0x2800010
Nov  7 06:29:38.726 bqs/ext 0/5/CPU0 t2701 EXT: Called client's queue connect callback
function for ifh: 0x2800010, seid: 0x80000001, qid: 24
Nov  7 06:29:38.726 bqs/ext 0/5/CPU0 t2701 EXT: Called client's queue connect callback
function for ifh: 0x2800010, seid: 0x80000000, qid: 25
Nov  7 06:29:38.725 bqs/ext 0/5/CPU0 t2701 EXT: Committing client's BQS context for npu id:
```

```
 0, ifh: 0x2800010, update mode: Make-Break
Nov  7 06:29:38.725 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: -1, min:
-1, is_cond_min: False, max: -1, exc: 100, qid: 24)
Nov  7 06:29:38.725 bqs/ext 0/5/CPU0 t2701 EXT: Adding schedule entry for npu id: 0, ifh:
0x2800010, seid: 0x80000001, Parent sid: 0xc0000000
Nov  7 06:29:38.725 bqs/ext 0/5/CPU0 t2701 EXT: Schedule entry params (priority: 1, min:
-1, is_cond_min: False, max: -1, exc: -1, qid: 25)
 --More--
```

show controllers egressq resources

To display the Egressq resource usage on a specific controller or node, use the **show controllers egressq resources** command in XR EXEC mode.

show controllers egressq resources npu*NPU-number***location** *node-id*

Syntax Description

location *node-id*	Identifies the location of the egress queue whose statistics you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.
npu *NPU-number*	Identifies the NPU of the egress queue whose statistics you want to display. Replace the *NPU-number* argument with a NPU number. The range is from 0 to 15.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
cisco-support	read

Examples

The following example shows how to display the internal trace information of Egressq for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers egressq resources npu 0 location 0/5/CPU0

Schedules
        Engine  Total   Used
        ------  -----   -------------
```

```
        Root    32      3     (  9 %)
        Hier2   512     9     (  2 %)
        Hier1   512     0     (  0 %)
        Leaf    1024    9     (  1 %)

Schedule Entries
        Engine  Total   Used
        ------  -----   -------------
        Root    512     9     (  2 %)
        Hier2   512     0     (  0 %)
        Hier1   1024    9     (  1 %)
        Leaf    2048    28    (  1 %)

Queues
        Total   Used
        -----   -------------
        2048    28    (  1 %)

Profiles
 --More--
```

show controllers plim asic ether queues

To display the ethernet PLIM asic information, use the **show controllers plim asic ether queues** command in XR EXEC mode.

show controllers plim asic ether queues {**interface** *type interface-instance*| **location** {*node-id*| *name*}}

Syntax Description

location [*node-id* | *name*]	Identifies the location of the ethernet. The *node-id* argument is expressed in the *rack/slot/module* notation.
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	Identifies the interface instance. The *interface-instance* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
drivers	read
cisco-support	read

Examples

The following example shows how to display the internal trace information of Egressq for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers plim asic ether queues interface HundredGigE 0/5/0/0

 Rx LP queue 2
  start 0, end 16383, size 16384, bpoff 8191, bpon 12285, taildrop 16339
  read0 0, read1 0 write_start 0 write_now 0 write_start_actual 0
  fill 0, status bpoff
 Rx HP queue 3
  start 0, end 16383, size 16384, bpoff 8191, bpon 12285, taildrop 16339
  read0 0, read1 0 write_start 0 write_now 0 write_start_actual 0
  fill 0, status bpoff
```

show controllers plim asic statistics

To display physical layer interface module (PLIM) ASIC statistics for a specific node or interface, use the **show controllers plim asic statistics** command in XR EXEC mode.

show controllers plim asic statistics {**interface** *type interface-path-id*| **summary**} [**location** *node-id*]

Syntax Description

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.
summary	Displays a summarized information for PLIM ASICs on a specified node, or for all interfaces on the router.
location *node-id*	Identifies the location of the node whose PLIM ASIC information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation. **Note** Use the **show platform** command to see the location of all nodes installed in the router.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
root-system	read

Examples

The following example shows how to display PLIM ASIC statistics information for a POS interface:

```
RP/0/RP0/CPU0:router# show controllers plim asic statistics interface HundredGigE 0/5/0/0$
                              Node: 0/5/CPU0
------------------------------------------------------------------------------
HundredGigE0/5/0/0 Tx Statistics
------------------------------------------------
Total Packets            : 0                 Total Bytes              : 0
Total Good Packets       : 0                 Total Good Bytes         : 0
Unicast Packets          : 0                 Multicast Packets        : 0
Broadcast Packets        : 0                 64 Byte Packets          : 0
65to127  Byte Packets    : 0                 128to255 Byte Packets    : 0
256to511 Byte Packets    : 0                 512to1023 Byte Packets   : 0
1024to1518 Byte Packets  : 0                 1519to1522 Byte Packets  : 0
1523to1548 Byte Packets  : 0                 1549to2000 Byte Packets  : 0
2001to_MRU Byte Packets  : 0                 Non Pause BPDU Packets   : 0
Classic Pause Packets    : 0
Class Based Pause Pkts 0 : 0                 Class Based Pause Pkts 1 : 0
Class Based Pause Pkts 2 : 0                 Class Based Pause Pkts 3 : 0
Class Based Pause Pkts 4 : 0                 Class Based Pause Pkts 5 : 0
Class Based Pause Pkts 6 : 0                 Class Based Pause Pkts 7 : 0

Dropped Packets
===============
Drained Packets          : 0                 Abort                    : 0
Length Error             : 0                 Giant                    : 0
Tail Drop: HP Queue      : 0                 Tail Drop: LP Queue      : 0

HundredGigE0/5/0/0 Rx Statistics
------------------------------------------------
Total Packets            : 0                 Total Bytes              : 0
Total Good Packets       : 0                 Total Good Bytes         : 0
Unicast Packets          : 0                 Multicast Packets        : 0
Broadcast Packets        : 0                 64 Byte Packets          : 0
65to127  Byte Packets    : 0                 128to255 Byte Packets    : 0
256to511 Byte Packets    : 0                 512to1023 Byte Packets   : 0
1024to1518 Byte Packets  : 0                 1519to1522 Byte Packets  : 0
1523to1548 Byte Packets  : 0                 1549to2000 Byte Packets  : 0
2001to_MRU Byte Packets  : 0                 Non Pause BPDU Packets   : 0
Classic Pause Packets    : 0
Class Based Pause Pkts 0 : 0                 Class Based Pause Pkts 1 : 0
Class Based Pause Pkts 2 : 0                 Class Based Pause Pkts 3 : 0
Class Based Pause Pkts 4 : 0                 Class Based Pause Pkts 5 : 0
Class Based Pause Pkts 6 : 0                 Class Based Pause Pkts 7 : 0

Dropped Packets
===============
Runts                    : 0                 Fragments                : 0
Jumbo                    : 0                 Jabber                   : 0
CRC                      : 0                 Code Error               : 0
Code Violation           : 0                 Bad Preamble             : 0
IPG Violation            : 0
Packet HPQ QoS Ctl Drop  : 0                 Bytes HPQ QoS Ctl Drop   : 0
Packet HPQ QoS HP Drop   : 0                 Bytes HPQ QoS HP Drop    : 0
Packet HPQ Ctl Tail Drop : 0                 Bytes HPQ Ctl Tail Drop  : 0
Packet HPQ HP Tail Drop  : 0                 Bytes HPQ HP Tail Drop   : 0
Packet LPQ LP1 Tail Drop : 0                 Bytes LPQ LP1 Tail Drop  : 0
Packet LPQ LP2 Tail Drop : 0                 Bytes LPQ LP2 Tail Drop  : 0
Packet TCAM Miss         : 0                 Bytes TCAM Miss          : 0
Packet EOP Abort Drop    : 0                 Bytes EOP Abort Drop     : 0
Packet Policy Deny       : 0                 Bytes Policy Deny        : 0
 --More--
```

This table describes the significant fields shown in the display.

Table 9: show controllers plim asic statistics Field Descriptions

Field	Description
Total Packets	Number of total packets received or transmitted on the interface.
Unicast Packets	Number of unicast packets received or transmitted on the interface.
Multicast Packets	Number of Multicast packets received or transmitted on the interface.
Broadcast Packets	Number of good broadcast packets received or transmitted. Received packets were directed to the broadcast address.
65to127Bytes	Number of packets (including bad packets) received or transmitted that were between 65 and 127 bytes in length inclusive (excluding framing bits but including FCS bytes).
128to255Bytes	Number of packets (including bad packets) received or transmitted that were between 128 and 255 bytes in length inclusive (excluding framing bits but including FCS bytes).
256to511Bytes	Number of packets (including bad packets) received or transmitted that were between 256 and 511 bytes in length inclusive (excluding framing bits but including FCS bytes).
512to1023Bytes	Number of packets (including bad packets) received or transmitted that were between 512 and 1023 bytes in length inclusive (excluding framing bits but including FCS bytes).
1024to1518Bytes	Number of packets (including bad packets) received or transmitted that were between 1024 and 1518 bytes in length inclusive (excluding framing bits but including FCS bytes).
1519to1548Bytes	Number of packets (including bad packets) received or transmitted that were between 1519 and 1548 bytes in length inclusive (excluding framing bits but including FCS bytes).
1549to2000Bytes	Number of packets (including bad packets) received or transmitted that were between 1549 and 2000 bytes in length inclusive (excluding framing bits but including FCS bytes).

Field	Description
Abbort	Number of packets that were not retrieved quickly enough from shared memory to be transmitted or received.
Runt	Number of packets received or transmitted that were less than 64 bytes long (excluding framing bits, but including FCS bytes) and were otherwise well formed.
Jumbo	Number of packets received or transmitted that were longer than 1518 bytes (excluding framing bits, but including FCS bytes) and were otherwise well formed.
Jabbers	Number of packets received or transmitted that were longer than 1518 bytes (excluding framing bits but including FCS bytes) and had either a bad Frame Check Sequence (FCS) with an integral number of bytes (FCS error) or a bad FCS with a non-integral number of bytes (assigned error).

show controllers plim asic summary

To display summarized physical layer interface module (PLIM) ASIC information for a specific node or interface, use the **show controllers plim asic** command in XR EXEC mode.

show controllers plim asic summary [**location** *node-id*]

Syntax Description

location *node-id*	Identifies the location of the node whose PLIM ASIC information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation. **Note** Use the **show platform** command to see the location of all nodes installed in the router.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following example shows how to display summarized PLIM ASIC information for all locations:

```
RP/0/RP0/CPU0:router# show controllers plim asic summary

Node: 0/1/CPU0
--------------------------------------
Instance# 0    Summary info:
--------------------------------------
Name       : PLASPA    Version  : 2
```

```
Port 0
Jacket slot: 1         SPA type : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 3         SPA type : SPA_NAME_UNKNOWN
Port 2
Jacket slot: 0         SPA type : 4xOC3 POS SPA

Instance# 1    Summary info:
--------------------------------------
Name       : PLASPA    Version  : 2

Port 0
Jacket slot: 2         SPA type : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 4         SPA type : 4xOC48 POS/RPR HHSPA
Port 2
Jacket slot: 5         SPA type : 8xGE SPA


IFName     : POS0/1/0/0
Inst#      : 0         Port     : 2
RxLPORT    : 0x80      TxLPORT  : 0x48
Uidb       : 0x2       Key      : 0x80
Hkey       : 209       Hkey idx : 0

IFName     : POS0/1/0/1
Inst#      : 0         Port     : 2
RxLPORT    : 0x81      TxLPORT  : 0x49
Uidb       : 0x4       Key      : 0x81
Hkey       : 28        Hkey idx : 0

IFName     : POS0/1/0/2
Inst#      : 0         Port     : 2
RxLPORT    : 0x82      TxLPORT  : 0x4a
Uidb       : 0x6       Key      : 0x82
Hkey       : 183       Hkey idx : 0
```

This table describes the significant fields shown in the display.

Table 10: show controllers plim asic summary Field Descriptions

Field	Description
Node	Node whose information is displayed. Information is displayed for each node's SPA and its interfaces.
Instance	PLIM ASIC identifier. This is the PLIM ASIC associated with the specified location.

Field	Description
Summary info (for SPA)	Displays the following info for all SPAs installed in the router: • Name—Identifies the SPA.whose information is displayed. • Version—Version identifier for the PLIM ASIC. • Jacket slot—Identifies the slot containing the jacket card for the specified SPA. • SPA type —Describes the SPA whose information is displayed. • Port—Port associated with the PLIM ASIC. • Inst#—SPA ASIC instance Identifier.
Summary info (for interfaces)	Displays the following info for all interfaces associated with the specified SPA: • Intf name—Identifies the SPA.whose information is displayed. • Inst#—ASIC associated with this interface. • Port—Port associated with the PLIM ASIC. • RxLPORT—Receive port, in hexadecimal format. • TxLPORT—Transmit port, in hexadecimal format. • Uidb—UIDB assigned by the software, in hexadecimal format. • Key—AISC key, in hexadecimal format. • Hkey—ASIC registry key. • Hkey idx—ASIC registry key index.

show controllers pse statistics

To display packet switching engine (PSE) statistics for a specific controller instance, or for a specific node, use the **show controllers pse statistics**command in XR EXEC mode.

show controllers pse statistics summary instance *instance-number* **location** *node-id*

Syntax Description

instance *instance-number*	Replace the *instance-number* argument with a device instance number. The range is from 0 to 16.
location *node-id*	Identifies the location of the node whose PSE device information you want to display. The *node-id* argument is expressed in the *rack/slot/module* notation.

Command Default

No default behavior or value

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display PSE statistics for specific instance:

```
RP/0/RP0/CPU0:router# show controllers pse statistics summary instance 0 location 0/5/CPU0
STATISTICS SUMMARY:

INGRESS
-------
From L2 [LSIM]:
  Packets: 0
```

```
  Bytes:   0
To Fabric:
  Packets: 0
  Bytes:   0

EGRESS
------
From Fabric:
  Packets: 0
  Bytes:   0
To TM:
  Packets: 0
To L2 [LSIM]:
  Packets: 0
  Bytes:   0

TO/FROM CPU
-----------
To CPU:
  Packets: 0
From CPU:
  Packets: 0
```

show controllers pse summary

To display a summary of packet switching engine (PSE) information for a specific controller or node, use the **show controllers pse summary** command in XR EXEC mode.

show controllers pse summary instance *instance-number* **location** *node-id*

Syntax Description

instance *instance-number*	Replace the *instance-number* argument with a device instance number. The range is from 0 to 16.
location *node-id*	Identifies the location of the node whose PSE device statistics you want to clear. The *node-id* argument is expressed in the *rack/slot/module* notation. **Note** Use the **show platform** command to see the location of all nodes installed in the router.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
interface	read
drivers	read

Examples

The following command shows how to display a summary of PSE information for a specific controller instance:

```
RP/0/RP0/CPU0:router# show controllers pse summary instance 0 location 0/5/CPU0
SUMMARY:
Device Info
    Mfg ID                  : 23
    ASIC ID                 : 0x3A2
```

```
    Electronic Device Info (Data downloaded from efuse ROM)
    DIE ID (1st Set)        : 0x1C90
    DIE ID (2nd Set)        : 0x0
    DIE ID (3rd Set)        : 0xD1808050
    DIE ID (4th Set)        : 0x900E00D0
    Device Version          : 2

ASIC Info
    ASIC Blocks Enabled     : All Enabled

Driver Process Info
    Start Up Options        :
    PPEUcodeName            :
    Num of Power-On Resets  : 0
    Num of PPE Ucode Downlds: 0

Performance Info
    # of free PPE threads   : 671 (0.15% used)
    GPM Occupancy
       Free Segments        : 2029 (0.93% used)
       Pkt Handle Occupancy : 2047 (0.15% used)

MAC Lane & Fabric Status

    Fabric Link Status      : Aligned

    MAC Lane Status         :
    (RF = Remote Fault, LF = Local Fault, OF = Other Fault)
    Port      Subport   MAC Inst  MAC Lane  Status
    --------  --------  --------  --------  --------
           0         0         1         0  LF
           1         0         0         0  LF

Ingress
    Layer 2 receive count   : 0
    To Fabric count         : 0
Egress
    From Fabric count       : 0
    Layer 2 transmit count  : 0
Punt/Inject
    PDMA To Host count      : 0
    PDMA From Host count    : 0
```

Related Commands

Command	Description
show controllers pse eio links	Displays packet switching engine information for Elastic I/O links.
show controllers pse ipc	Displays packet switching engine device information for interprocess communication connections, or for a specific IPC controller.
show controllers pse mp	displays packet switching engine information for the maintenance processor on a specific controller or node.
show controllers pse statistics, on page 51	Displays packet switching engine statistics for a specific controller instance.

show packet-memory

To display information for packet memory, use the **show packet-memory** command in XR EXEC mode.

show packet-memory [**clients**| **corrupt**| **fsv**| **hssd**| **ifinput**| **ifoutput**| **internal**| **inuse**| **job**| **mutex**| **old**| **pakhandle**| **reserved**| **summary**| **trace**| **watch**] [**location** *node-id*]

Syntax Description

clients	(Optional) Displays the packet manager clients.
corrupt	(Optional) Displays the information about corrupted packets.
fsv	(Optional) Displays feature-specific variable information.
hssd	(Optional) Displays High Speed Small Data (HSSD).
ifinput	(Optional) Displays packets from a specific interface.
ifoutput	(Optional) Displays packets to a specific interface.
internal	(Optional) Displays the packet memory along with actual number of particles in free list.
inuse	(Optional) Displays the total number of packets in use
job	(Optional) Displays the number of packets owned by a specific process.
mutex	(Optional) Displays the pakman mutex monitoring configuration.
old	(Optional) Displays the total number of packets older than one minute.
pakhandle	(Optional) Displays the specific packet hd/dump information.
reserved	(Optional) Displays the reserved memory information.
summary	(Optional) Displays the packet memory usage summary information.
trace	(Optional) Displays the packet-memory traces.
watch	(Optional) Displays the pakman watch configuration.
location *node-id*	(Optional) Displays detailed packet memory information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

Displays information about all packet memory.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

The **show packet-memory** command can be used to display the total number of packet and particle headers, along with the packet memory that is currently allocated in the system.

Task ID

Task ID	Operations
basic-services	read
cisco-support	read

Examples

The following example shows how to display packet memory information:

```
RP/0/RP0/CPU0:router# show packet-memory

Packet memory statistics :
==========================
Packet headers
total: 32000, free: 32000, size: 448
Particle Pools(8)
Pool(0):total: 8000, free: 8000, size: 256
fallback: 0, region: 0
Pool(1):total: 4000, free: 3968, size: 512
fallback: 1, region: 0
Pool(2):total: 16, free: 16, size: 512
fallback: 2, region: 0
Pool(3):total: 8000, free: 7936, size: 768
fallback: 3, region: 0
Pool(4):total: 12800, free: 9172, size: 1648
fallback: 4, region: 0
Pool(5):total: 320, free: 320, size: 2560
fallback: 5, region: 0
Pool(6):total: 1600, free: 1088, size: 4608
fallback: 6, region: 0
Pool(7):total: 640, free: 640, size: 6240
fallback: 7, region: 0
Particle clone
total: 8000, free: 8000, size: 256
Packet Feature Specific Variable (FSV)
total: 16000, free: 16000, size: 88
Packet trace
total: 16384, free: 16384, size: 40
```

This table describes the significant fields shown in the display.

Table 11: show packet memory Field Descriptions

Field	Description
Packet headers	Data structure that defines and controls an aggregation of data structures, collectively known as a packet. Includes information about every packet in the system.
Particle Pools	Data structure that describes a particle and may be chained to other particles in a linked list. Includes information about the actual data of the packet and other particle headers in this packet if present in this packet.
Particle clone	Duplicate particle header that points to a previously allocated particle. Differs from a particle header in that a particle clone shares the particle with another particle header.
Packet Feature Specific Variable (FSV)	Scratch pad shared among the features in the packet path, listing hangs of the packet header.
Packet trace	Data associated with the packet header to help tracing a packet in the system.

Troubleshooting Commands

This module describes commands used for troubleshooting routers running Cisco IOS XR software.

The commands in this chapter with the cisco-support task ID are used in the as part of the troubleshooting process. For information about commands with the cisco-support task ID that are not documented in this chapter, please contact Cisco Technical Support.

Caution These Cisco support commands are normally reserved for use by Cisco Technical Support personnel only. There is some risk that they may cause performance or other issues that impact products without proper usage, and we highly recommend that you contact Cisco Technical Support prior to using any of these commands.

- show uidb trace, page 109
- show uidb index , page 112

show arp trace

To display Address Resolution Protocol (ARP) entries in the buffer, use the **show arp trace** command in XR EXEC mode.

show arp trace[**file** *file-name*] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [usec] [verbose] [wide] [wrapping]** [**location** {*node-id*| **all**| **mgmt-nodes**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays trace information for a specific number of entries
entries	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 65536.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics in the command output.
tailf	(Optional) Displays the new traces as they are added in the command output.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
unique	(Optional) Displays the unique entries with counts in the command output.
verbose	(Optional) Displays the information for internal debugging in the command output.

wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	(Optional) Specifies all locations.
location mgmt-nodes	(Optional) Specifies all management nodes.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show arp trace** command to display ARP entries in the buffer.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows the output of the **show arp trace** command:

```
RP/0/RP0/CPU0:router# show arp trace last 5
Mon Nov  4 05:06:36.822 UTC
69 unique entries (4096 possible, 0 filtered)
Nov  4 02:22:32.418 ipv4_arp/pkt 0/RP0/CPU0 73# t3629 TBL:   PROBE: MgmtEth0/RP0/CPU0/0
exceeds maximum retries. Marking INCOMPLETE
Nov  4 02:22:32.419 ipv4_arp/slow 0/RP0/CPU0 73# t3629 BLK: AIB adjacency delete succeeded
 for 1 interfaces
Nov  4 02:22:44.225 ipv4_arp/slow 0/RP0/CPU0 73# t3629 TBL:   entry 1.75.34.151: deleted
from table
Nov  4 04:38:20.890 ipv4_arp/pkt 0/RP0/CPU0 625# t3629 TBL:   probe completed successfully
 for 1.75.39.25
Nov  4 05:05:52.821 ipv4_arp/pkt 0/RP0/CPU0 9929# t3629 ERR:   Bad Arp packet filtered and
 freed
4007 wrapping entries (16640 possible, 5888 allocated, 0 filtered, 11439 total)
```

```
Nov  4 05:01:52.902 ipv4_arp/pkt 0/RP0/CPU0 t3629 ERR:   Bad Arp packet filtered and freed
Nov  4 05:02:52.885 ipv4_arp/pkt 0/RP0/CPU0 t3629 ERR:   Bad Arp packet filtered and freed
Nov  4 05:03:52.862 ipv4_arp/pkt 0/RP0/CPU0 t3629 ERR:   Bad Arp packet filtered and freed
Nov  4 05:04:52.844 ipv4_arp/pkt 0/RP0/CPU0 t3629 ERR:   Bad Arp packet filtered and freed
Nov  4 05:05:52.821 ipv4_arp/pkt 0/RP0/CPU0 t3629 ERR:   Bad Arp packet filtered and freed
```

Related Commands

Command	Description
show arp	Displays the ARP.

show captured packets

To display information on packets that are switched and punted in the software, use the **show captured packets** command in XR EXEC mode.

show captured packets {**ingress**| **egress**} [**interface** *type interface-path-id*] **[hexdump]** [**last** *number*] **[single-line] location** *node-id*

Syntax Description

ingress	Specifies ingress dropped packets.
egress	Specifies egress dropped packets.
interface	(Optional) Specifies an 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.
hexdump	(Optional) Displays the packet contents in hex.
last *number*	(Optional) Specifies the last number of packets in the queue to display.
single-line	(Optional) Displays a one-line summary of the captured packets to facilitate the use of the include and exclude operators.
location *node-id*	Displays packet information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show captured packets** command to display information on packets that are switched and punted in the software.

The **capture software packets** command must be enabled at the interface level to use this command.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows the output of the **show captured packets** command:

```
RP/0/RP0/CPU0:router# show captured packets ingress interface tengige0/0/0/3 location
0/0/CPU0

------------------------------------------------------
packets captured on interface in ingress direction buffer overflow pkt drops:0, current:
6, non wrapping: 0 maximum: 200
------------------------------------------------------
           Wrapping entries
------------------------------------------------------
[1] Mar 22 16:30:43.797, len: 114, hits: 1, i/p i/f: TenGigE0/0/0/3
    [punt reason: IFIB]
    [ether dst: 0015.fa99.590b src: 0010.a4e6.22fc type/len: 0x800]
    [IPV4: source 172.18.2.2, dest 172.18.2.1 ihl 5, ver 4, tos 0
     id 22556, len 100, prot 1, ttl 64, sum c655, offset 0]
    00008612 51010000 abcdabcd abcdabcd abcdabcd abcdabcd abcdabcd abcdabcd
    abcdabcd abcdabcd abcdabcd abcd
```

This table describes the significant fields shown in the display.

Table 12: show captured packets Field Descriptions

Field	Description
punt reason: IFIB	Packet was switched in the software due to the Internal Forwarding Information Base (IFIB) entry.
ether	Source, destination, and type or length values in the Ethernet header.
IPV4	Depending on the type of packet, the layer 3 packet header follows.

show cfgmgr trace

To display trace information for the configuration manager (CFGMGR), use the **show cfgmgr trace** command in XR EXEC mode.

show cfgmgr trace [cfs] [client] [commitdb] [error] [**file** *file-name*] **[hexdump]** [**last** *entries*] **[lock] [nsvmgr] [others] [reqmgr] [reverse] [sam] [stat] [tailf] [usec] [wide] [verbose] [unique] [wrapping]**[**location** {*node-id*| **all**}]

Syntax Description

cfs	(Optional) Displays traces related to configuration file system.
client	(Optional) Displays traces related to client.
commitdb	(Optional) Displays traces related to commit database.
error	(Optional) Displays traces related to error conditions.
file	(Optional) Displays a specific file.
filename	Name of a specific file.
hexdump	(Optional) Displays traces in hexadecimal format.
informational	(Optional) Displays traces for normal conditions.
last	(Optional) Displays trace information for a specific number of entries
entries	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 65536.
lock	(Optional) Displays traces related to lock.
nvsmgr	(Optional) Displays traces related to the namespace version manager.

others	(Optional) Displays traces related to others.
reqmgr	(Optional) Displays traces related to the request manager.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics in the command output.
sam	(Optional) Displays traces related to startup apply manager.
server	(Optional) Displays traces related to the server.
tailf	(Optional) Displays the new traces as they are added in the command output.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
unique	(Optional) Displays the unique entries with counts in the command output.
verbose	(Optional) Displays the information for internal debugging in the command output.
wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	(Optional) Specifies all locations.
location mgmt-nodes	(Optional) Specifies all management nodes.

Command Default No default behavior or values

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show cfgmgr trace** command to display cfgmgr trace information.

The following lines of the **show cfgmgr trace** command output indicate that the startup configuration has started and that it has completed on the active RP:

```
Feb  6 21:28:37.145 /ltrace/cfgmgr/common 0/RP0/CPU0 t5  Startup confi
g apply requested with option '0x1'
Feb  6 21:31:30.874 /ltrace/cfgmgr/common 0/RP0/CPU0 t7  Startup confi
g done (and infra band already ready)
```

Note These traces are not present if the original active RP has ever reloaded (for example, if there have been any RP switchover events since the system first booted).

Task ID

Task ID	Operations
cisco-support	read

Examples The following example shows the output of the **show cfgmgr trace** command:

```
RP/0/RP0/CPU0:router#show cfgmgr trace

130 wrapping entries (2048 possible, 0 filtered, 130 total)
Apr 23 21:15:58.587 cfgmgr/common 0/RP0/CPU0 t5  Req '4': Save interface config]
Apr 23 21:15:58.707 cfgmgr/common 0/RP0/CPU0 t5  Req '4': Save node specific co]
Apr 23 21:15:59.000 cfgmgr/common 0/RP0/CPU0 t5  OIR announcement made for 'nod'
Apr 23 21:17:40.975 cfgmgr/common 0/RP0/CPU0 t5  The request queue IS NOT curred
Apr 23 21:17:40.975 cfgmgr/common 0/RP0/CPU0 t5  Process OIR save request.
Apr 23 21:17:41.040 cfgmgr/common 0/RP0/CPU0 t5  Validating 'LR' configuration ]
Apr 23 21:17:41.055 cfgmgr/common 0/RP0/CPU0 t5  Validating 'admin' configurati]
Apr 23 21:17:41.304 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save interface config]
Apr 23 21:17:41.349 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save interface config]
Apr 23 21:17:41.995 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save interface config]
Apr 23 21:17:42.041 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save interface config]
Apr 23 21:17:42.254 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save interface config]
Apr 23 21:17:42.356 cfgmgr/common 0/RP0/CPU0 t5  Req '5': Save node specific co]
Apr 23 21:17:42.580 cfgmgr/common 0/RP0/CPU0 t5  OIR announcement made for 'nod'
Apr 25 15:26:49.372 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
```

```
Apr 25 18:15:06.142 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 03:35:10.170 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 05:54:37.528 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 06:18:47.118 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 09:07:01.662 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 09:28:22.311 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
Apr 26 11:56:55.677 cfgmgr/common 0/RP0/CPU0 t1  Config media returned from dis.
```

Related Commands

Command	Description
show cfgmgr commitdb	Displays the contents of the commit database for the configuration manager.

show im database

To display the information stored in the shared memory database of interface manager (IM), use the **show im database** command in XR EXEC mode.

show im database [**brief**| **detail**| **ifhandle**| **interface**| **summary**| **verbose**| **view**] *interface-type interface-instance* **location** *node-id*

Syntax Description

brief	(Optional) Displays brief information about IM database.
detail	(Optional) Displays detailed information about IM database.
ifhandle	(Optional) Select a specific interface by handle.
interface	(Optional) Select a specific interface by name.
summary	(Optional) Displays IM database summary information.
verbose	(Optional) Displays verbose information about IM database.
view	(Optional) Specify a database view to filter the information based on the view
interface-type	Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	Displays IM database information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default No default behavior or values

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read
interface	read

Examples The following example shows the output of the **show im database** command:

```
RP/0/RP0/CPU0:router# show im database verbose interface null 0
Mon Nov  9 22:10:37.964 PST

View: OWN - Owner, L3P - Local 3rd Party, G3P - Global 3rd Party,
      LDP - Local Data Plane, GDP - Global Data Plane, RED - Redundancy

Node 0/RP0/CPU0 (0x201)

Interface Null0, ifh 0x00080030 (up, 1500)
  Interface flags:          0x00010097 (IFINDEX|VIRTUAL|CONFIG|VIS|DATA|CONTRO
  Encapsulation:            null
  Interface type:           IFT_NULL
  Views:                    GDP|LDP|G3P|L3P|OWN
  Control location:         0/RP0/CPU0
  Owner Private:            92 bytes
    Flags:                  <none>
    State Transitions:      1
    Dampening Config:       NO
    Shared Locks:           0
    MTU default             1500
    MTU ovh for bc/subif:   0/0
    MTU min/max:            0/0
    MTU avail/child:        0/1500
    MTU actual/notified:    1500/1500
    State (constraint):     UP (UP)
    Callback:               OWN GROUP OWNER - ID 17[-]
    Ctrl Flags:             CFG_RDY|RDY|DNLD|INTF
  Instance ID:              31
  Checkpoint:               48 bytes
  Resource in NetIO:        TRUE
```

```
Protocol        Caps (state, mtu)
--------        -----------------
None            null (up, 1500)
  Views:                  LDP|G3P|L3P|OWN
  Owner Private:          92 bytes
    Flags:                <none>
    MTU min/max:          0/0
    MTU avail/child:      1500/1500
    MTU actual/notified:  1500/1500
    State (constraint):   UP (UP)
    Callback:             OWN GROUP OWNER - ID 17[-]
    Ctrl Flags:           CFG_RDY|RDY|DNLD
  Instance ID:            31
  Checkpoint:             20 bytes
  Resource in NetIO:      TRUE
  Demux limit:            0x00000000
```

This table describes the significant fields shown in the display.

Table 13: show im database Field Descriptions

Field	Description
nodeid	Identifier associated with the node.
Interface	Interface name.
Protocol	Protocol capsulations associated with the interface.
Caps (state, mtu)	Capsulation names with associated state and MTU values.

The following example shows the output of the **show im database** command:

```
RP/0/RP0/CPU0:router# show im database brief location 0/0/CPU0

View: OWN - Owner, L3P - Local 3rd Party, G3P - Global 3rd Party,
      LDP - Local Data Plane, GDP - Global Data Plane, RED - Redundancy

Node 0/0/CPU0 (0x1)

 Handle   | Name                 | State    | MTU  |#P|#C| Views             |
----------|----------------------|----------|------|--|--|-------------------|
0x01080020 FI0/0/CPU0             up          8000 11 12 GDP|LDP|L3P|OWN
0x01080060 Gi0/0/0/0              up          9212  3  3 GDP|LDP|L3P|OWN
0x01080080 Gi0/0/0/1              up          1514  3  3 GDP|LDP|L3P|OWN
0x010800a0 Gi0/0/0/2              up          1514  3  3 GDP|LDP|L3P|OWN
0x010800c0 Gi0/0/0/3              down        1514  4  4 GDP|LDP|L3P|OWN
0x010800e0 Gi0/0/0/4              up          1514  3  3 GDP|LDP|L3P|OWN
0x01080100 Gi0/0/0/5              up          1514  3  3 GDP|LDP|L3P|OWN
0x01080120 Gi0/0/0/6              up          1514  8 17 GDP|LDP|L3P|OWN
0x01080140 Gi0/0/0/7              down        1514  6  9 GDP|LDP|L3P|OWN
0x010801c0 Gi0/0/0/6.1            up          1518  4  5 GDP|LDP|L3P|OWN
0x010801e0 Gi0/0/0/6.101          up          1518  5 13 GDP|LDP|L3P|OWN
0x01080200 Gi0/0/0/6.102          up          1518  5 13 GDP|LDP|L3P|OWN
0x01080220 Gi0/0/0/6.103          up          1518  5 13 GDP|LDP|L3P|OWN
0x01080240 Gi0/0/0/6.104          up          1518  5 13 GDP|LDP|L3P|OWN
0x01080260 Gi0/0/0/6.105          up          1518  4 12 GDP|LDP|L3P|OWN
0x01080280 Gi0/0/0/6.106          up          1518  4 12 GDP|LDP|L3P|OWN
0x010802a0 Gi0/0/0/6.107          up          1518  4 12 GDP|LDP|L3P|OWN
0x010802c0 Gi0/0/0/6.108          up          1518  4 10 GDP|LDP|L3P|OWN
0x010802e0 Gi0/0/0/6.109          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080300 Gi0/0/0/6.110          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080320 Gi0/0/0/6.111          up          1518  4 10 GDP|LDP|L3P|OWN
```

```
0x01080340 Gi0/0/0/6.112          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080360 Gi0/0/0/6.113          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080380 Gi0/0/0/6.114          up          1518  4 10 GDP|LDP|L3P|OWN
0x010803a0 Gi0/0/0/6.115          up          1518  4 10 GDP|LDP|L3P|OWN
0x010803c0 Gi0/0/0/6.116          up          1518  4 10 GDP|LDP|L3P|OWN
0x010803e0 Gi0/0/0/6.117          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080400 Gi0/0/0/6.118          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080420 Gi0/0/0/6.119          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080440 Gi0/0/0/6.120          up          1518  4 10 GDP|LDP|L3P|OWN
0x01080460 Gi0/0/0/6.121          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080480 Gi0/0/0/6.122          up          1518  4  6 GDP|LDP|L3P|OWN
0x010804a0 Gi0/0/0/6.123          up          1518  4  6 GDP|LDP|L3P|OWN
0x010804c0 Gi0/0/0/6.124          up          1518  4  6 GDP|LDP|L3P|OWN
0x010804e0 Gi0/0/0/6.125          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080500 Gi0/0/0/6.126          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080520 Gi0/0/0/6.127          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080540 Gi0/0/0/6.128          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080560 Gi0/0/0/6.129          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080580 Gi0/0/0/6.130          up          1518  4  6 GDP|LDP|L3P|OWN
0x010805a0 Gi0/0/0/6.131          up          1518  4  6 GDP|LDP|L3P|OWN
0x010805c0 Gi0/0/0/6.132          up          1518  4  6 GDP|LDP|L3P|OWN
0x010805e0 Gi0/0/0/6.133          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080600 Gi0/0/0/6.134          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080620 Gi0/0/0/6.135          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080640 Gi0/0/0/6.136          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080660 Gi0/0/0/6.137          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080680 Gi0/0/0/6.138          up          1518  4  6 GDP|LDP|L3P|OWN
0x010806a0 Gi0/0/0/6.139          up          1518  4  6 GDP|LDP|L3P|OWN
0x010806c0 Gi0/0/0/6.140          up          1518  4  6 GDP|LDP|L3P|OWN
0x010806e0 Gi0/0/0/6.141          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080700 Gi0/0/0/6.142          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080720 Gi0/0/0/6.143          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080740 Gi0/0/0/6.144          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080760 Gi0/0/0/6.145          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080780 Gi0/0/0/6.146          up          1518  4  6 GDP|LDP|L3P|OWN
0x010807a0 Gi0/0/0/6.147          up          1518  4  6 GDP|LDP|L3P|OWN
0x010807c0 Gi0/0/0/6.148          up          1518  4  6 GDP|LDP|L3P|OWN
0x010807e0 Gi0/0/0/6.149          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080800 Gi0/0/0/6.150          up          1518  4  6 GDP|LDP|L3P|OWN
0x01080820 Gi0/0/0/7.1            down        1518  2  5 GDP|LDP|L3P|OWN
0x01080840 Gi0/0/0/7.2            down        1518  4  6 GDP|LDP|L3P|OWN
0x01080860 Gi0/0/0/7.3            down        1518  3  4 GDP|LDP|L3P|OWN
0x01080880 Gi0/0/0/7.4            down        1518  3  4 GDP|LDP|L3P|OWN
0x010808a0 Gi0/0/0/7.5            down        1518  3  4 GDP|LDP|L3P|OWN
0x010808c0 Gi0/0/0/7.6            down        1518  3  4 GDP|LDP|L3P|OWN
0x010808e0 Gi0/0/0/7.7            down        1518  3  4 GDP|LDP|L3P|OWN
0x01080900 Gi0/0/0/7.8            down        1518  3  4 GDP|LDP|L3P|OWN
0x01080920 Gi0/0/0/7.9            down        1518  3  4 GDP|LDP|L3P|OWN
0x01080940 Gi0/0/0/7.10           down        1518  3  4 GDP|LDP|L3P|OWN
0x01080960 Gi0/0/0/7.11           down        1518  3  4 GDP|LDP|L3P|OWN
0x01100020 Mg0/1/CPU1/0           N/A            -  0  0 GDP
0x01100040 FI0/1/CPU1             N/A            -  0  0 GDP
0x01180020 FI0/1/CPU0             N/A            -  0  0 GDP
0x01180040 Mg0/1/CPU0/0           N/A            -  0  0 GDP
0x01180030 Nu0                    N/A            -  0  0 GDP
0x01180050 En0                    N/A            -  2  2 GDP|LDP
0x01180070 En6tunnel0             N/A            -  2  2 GDP|LDP
0x01180090 Lo0                    N/A            -  0  0 GDP
0x011800b0 Lo1                    N/A            -  0  0 GDP
0x011800d0 Lo2                    N/A            -  0  0 GDP
0x011800f0 Lo3                    N/A            -  0  0 GDP
0x01180110 Lo5                    N/A            -  0  0 GDP
0x01180130 Lo6                    N/A            -  0  0 GDP
0x01180150 Lo7                    N/A            -  0  0 GDP
0x01180170 BE102                  N/A            -  0  0 GDP
0x01180190 BE1080                 N/A            -  3  4 GDP|LDP
0x011801b0 BE1083                 N/A            -  3  4 GDP|LDP
0x011801d0 BE1084                 N/A            -  3  4 GDP|LDP
0x011801f0 BE1085                 N/A            -  5 12 GDP|LDP
0x01180210 BE1085.1               N/A            -  4  6 GDP|LDP
0x01180230 BE1085.102             N/A            -  4  7 GDP|LDP
```

show netio chains

To display Network Input and Output (Netio) chains information for an interface, use the **show netio chains** command in XR EXEC mode.

show netio chains *interface-type interface-instance* [**location** *node-id*]

Syntax Description

interface-type	Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	(Optional) Displays Netio chains information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio chains** command:

```
RP/0/RP0/CPU0:router# show netio chains gigabitEthernet 0/4/0/1

GigabitEthernet0/4/0/1 (handle: 0x05000500, nodeid 0x40) netio chains:
---------------------------------
Base decap chain:
     ether_shim           <130>  <0x79d99950, 0x0807bc84>  <       0,        0>
     ether                <30>  <0x79d7eb14, 0x08079318>  <       0,        0>


Protocol chains:
---------------
<Protocol number> (name)  Stats
  Type  Chain_node       <caps num>  <function, context> <drop pkts, drop bytes>
<7> (arp)   Stats IN: 279 pkts, 16740 bytes; OUT: 279 pkts, 11718 bytes
    Encap:
     ether_shim           <130>  <0x79d99858, 0x081c649c>  <       0,        0>
     l2_adj_rewrite       <86>  <0x7952437c, 0x081c5e4c>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
    Decap:
     arp                  <24>  <0x79a9ba14, 0x00000000>  <       0,        0>
    Fixup:
     l2_adj_rewrite       <86>  <0x795236c0, 0x081c5eb8>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
<12> (ipv4)   Stats IN: 0 pkts, 0 bytes; OUT: 48 pkts, 9578 bytes
    Encap:
     ipv4                 <26>  <0x79aa2004, 0x0816c204>  <       0,        0>
     ether                <30>  <0x79d7f634, 0x08079318>  <       0,        0>
     ether_shim           <130>  <0x79d99858, 0x081c0ebc>  <       0,        0>
     l2_adj_rewrite       <86>  <0x7952437c, 0x081c280c>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
    Decap:
     ipv4                 <26>  <0x79aa2054, 0x00000000>  <       0,        0>
    Fixup:
     l2_adj_rewrite       <86>  <0x795236c0, 0x081c2878>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
<13> (mpls)   Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
    Encap:
     mpls                 <25>  <0x79bd5f7c, 0x00000000>  <       0,        0>
     ether                <30>  <0x79d7f634, 0x08079318>  <       0,        0>
     ether_shim           <130>  <0x79d99858, 0x081cf838>  <       0,        0>
     l2_adj_rewrite       <86>  <0x7952437c, 0x081cf52c>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
    Decap:
     mpls                 <25>  <0x79bd3130, 0x00000000>  <       0,        0>
    Fixup:
     l2_adj_rewrite       <86>  <0x795236c0, 0x081cf598>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
<22> (ether_sock)   Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
    Encap:
     ether_sock           <98>  <0x79d80aac, 0x08079318>  <       0,        0>
     ether_shim           <130>  <0x79d99858, 0x0807bcfc>  <       0,        0>
```

```
     l2_adj_rewrite       <86>  <0x7952437c, 0x0807b9a4>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>
    Decap:
     ether_sock           <98>  <0x79d80ca8, 0x08079318>  <       0,        0>
    Fixup:
     l2_adj_rewrite       <86>  <0x795236c0, 0x0807ba10>  <       0,        0>
     txm_nopull           <60>  <0x79516cd0, 0x0817cbd8>  <       0,        0>


Protocol SAFI counts:
---------------------

       Protocol        SAFI       Pkts In    Bytes In    Pkts Out   Bytes Out
---------------  ----------    ----------  ----------  ----------  ----------
           ipv4     Unicast      24330016      233944        8412          41
           ipv4   Multicast          3240          60           0           0
           ipv4   Broadcast             0           0           0           0
           ipv6     Unicast             0           0           0           0
           ipv6   Multicast             0           0           0           0


Node drop accounting:
---------------------
No drops
```

Related Commands

Command	Description
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.
show netio trace	Displays Netio trace data.

show netio clients

To display Network Input and Output (Netio) clients information, use the **show netio clients** command in XR EXEC mode.

show netio clients [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays Netio clients information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio clients** command:

```
RP/0/RP0/CPU0:router# show netio clients location 0/3/2

XIPC: OutputQ [0:0]/[6000] HighOutputQ [0:18]/[2000] PuntbackQ [0:0]/[6000]
XIPC drops/total: OutputQ: 0/0 HighOutputQ: 0/15682677 PuntbackQ: 0/0
Counters (error/total): Output (0/15682677) Puntback (0/0) Jump (0/0)

                    Input             Punt         XIPC InputQ      XIPC PuntQ
ClientID         Drop/Total        Drop/Total      Cur/High/Max    Cur/High/Max
-------------------------------------------------------------------------------
ipv6_icmp           0/0               0/0             0/0/1000        0/0/1000
icmp                0/0               0/0             0/0/1000        0/0/1000
clns                0/0               0/0           L 0/0/1000        0/0/0
                                                    H 0/0/1000
chdlc_socket        0/802651          0/0             0/2/1000        0/0/0
fr_socket           0/4454002         0/0             0/6/2000        0/0/0
```

```
pre_route           0/0               0/0             0/0/1024        0/0/1024
ipv6_io             0/0               0/0             0/0/1000        0/0/1000
ipv6_nd             0/0               0/0             0/0/1000        0/0/1000
l2snoop             0/0               0/0             0/0/1000        0/0/0
icmpv6_unreach_jump         0/0               0/0
arp                 0/0               0/0             0/0/1000        0/0/1000
ppp                 0/10432525        0/0            0/17/1000        0/0/0
mpls_io             0/0               0/0             0/0/1000        0/0/1000
ipv4                0/0               0/0             0/0/1000        0/0/1000
ipv6                0/0               0/0             0/0/1000        0/0/1000

Key:
  L = queue for lower priority packets
  H = queue for higher priority packets
```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio db	Displays Netio database information.
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.
show netio trace	Displays Netio trace data.

show netio db

To display Network Input and Output (Netio) database information for an interface, use the **show netio db** command in XR EXEC mode.

show netio db {**caps** | **dll name***dll-name*| **proto**} [**location** *node-id*]

Syntax Description

caps	Displays the capsulations in the Netio database.
dll	Displays the dlls loaded in the Netio database.
name*dll-name*	(Optional) Specifies a DLL name.
proto	Displays the protocol in the Netio database.
location *node-id*	(Optional) Displays Netio database information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio db** command.

```
RP/0/RP0/CPU0:router# show netio db caps location 0/1/0

Capsulation (ID)              Load Count  DLL Name                    Refcount
chdlc(13)                              1 libchdlc_netio.dll                 3
```

```
hdlc(14)                          2 libchdlc_netio.dll                3
clns(15)                          2 libclns_netio.dll                 2
ipv4_acl_in(22)                   1 libipv4_netio_acl_filter.dll      2
ipv4_acl_out(23)                  1 libipv4_netio_acl_filter.dll      2
arp(24)                           1 libipv4_netio.dll                 6
mpls(25)                         22 libmpls_netio.dll                 3
ipv4(26)                         18 libipv4_netio.dll                 6
pim_enc(28)                       2 libpim_encaps_netio.dll           1
pim_null(29)                      5 libpim_null_netio.dll             1
ether(30)                         2 libether_netio.dll                3
mpls_te(36)                      32 libmpls_netio.dll                 3
txm_nopull(60)                   67 libsched_netio.dll                1
lpts(81)                          2 liblpts_netio.dll                 2
ipv6(82)                          2 libipv6_netio.dll                 5
l2_adj_rewrite(86)               67 libl2_adj_netio.dll               1
ipv6_preswitch(90)                1 libipv6_netio.dll                 5
fint_base(91)                    10 libfint_netio.dll                 1
fint_n2n(92)                      2 libfint_n2n.dll                   2
ether_sock(98)                    2 libether_netio.dll                3
ipv6_pfilter_in(102)              1 libipv6_netio_pfilter.dll         2
ipv6_pfilter_out(103)             1 libipv6_netio_pfilter.dll         2
netio_debug(110)                  1 libnetio_debugnode.dll            1
ipv4_preroute(115)                2 libipv4_netio.dll                 6
fint_l2transport(125)             2 libl2fib_netio.dll                2
ipv6_preroute(128)                2 libipv6_netio.dll                 5
ether_shim(130)                   4 libether_shim_netio.dll           1
pos_shim(132)                     3 libpos_shim_netio.dll             1
fint_caps_tp(134)                 2 libfint_netio_tp.dll              2
```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio clients	Displays Netio clients information.
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.
show netio trace	Displays Netio trace data.

show netio idb

To display network input and output (Netio) interface descriptor block (IDB) information for an interface, use the **show netio idb** command in XR EXEC mode.

show netio idb {*interface-type interface-instance*} [**location** *node-id*]

Syntax Description

interface-type	Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	(Optional) Displays Netio IDB information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show netio idb**command to display control plane information for the software switching path. The output provides useful statistics for determining software forwarding issues.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows the output of the **show netio idb** command:

```
RP/0/RP0/CPU0:router# show netio idb tenGigE 0/1/1/0 location 0/1/cpu0

TenGigE0/1/1/0 (handle: 0x01180020, nodeid:0x11) netio idb:
---------------------------------
name:                     TenGigE0_1_1_0
interface handle:         0x01180020
interface global index:   2
physical media type:      30
dchain ptr:               <0x482ae8e0>
echain ptr:               <0x482d791c>
fchain ptr:               <0x482d79b8>
driver cookie:            <0x4824ad58>
driver func:              <0x4824ad44>
number of subinterfaces: 4096
subblock array size:      3
DSNCNF:                   0x00000000
interface stats info:
   IN  unknown proto pkts:  0
   IN  unknown proto bytes: 0
   IN  multicast pkts:      0
   OUT multicast pkts:      0
   IN  broadcast pkts:      0
   OUT broadcast pkts:      0
   IN  drop pkts:           0
   OUT drop pkts:           0
   IN  errors pkts:         0
   OUT errors pkts:         0

Chains
--------------------
Base decap chain:
     ether               <30>  <0xfd7aef88, 0x48302824>  <       0,        0>

Protocol chains:
---------------
<Protocol number> (name)  Stats
  Type  Chain_node       <caps num>  <function, context> <drop pkts, drop bytes>
<7> (arp)   Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes

    Encap:
     l2_adj_rewrite       <86>  <0xfcec7a88, 0x4834efec>  <       0,        0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,        0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,        0>
    Decap:
     queue_fifo           <56>  <0xfcedda4c, 0x482dbee4>  <       0,        0>
     arp                  <24>  <0xfd1082cc, 0x00000000>  <       0,        0>
    Fixup:
```

```
     l2_adj_rewrite       <86>  <0xfcec745c, 0x00000000>  <       0,         0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,         0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,         0>
<12> (ipv4)   Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
    Encap:
     ipv4                 <26>  <0xfd10f41c, 0x482d7724>  <       0,         0>
     ether                <30>  <0xfd7aeb44, 0x48302824>  <       0,         0>
     l2_adj_rewrite       <86>  <0xfcec7a88, 0x4834f104>  <       0,         0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,         0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,         0>
    Decap:
     queue_fifo           <56>  <0xfcedda4c, 0x482dbee4>  <       0,         0>
     ipv4                 <26>  <0xfd10f474, 0x00000000>  <       0,         0>
    Fixup:
     l2_adj_rewrite       <86>  <0xfcec745c, 0x00000000>  <       0,         0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,         0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,         0>
<22> (ether_sock)   Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
    Encap:
     ether_sock           <98>  <0xfd7b1630, 0x48302824>  <       0,         0>
     l2_adj_rewrite       <86>  <0xfcec7a88, 0x48304c1c>  <       0,         0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,         0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,         0>
    Decap:
     queue_fifo           <56>  <0xfcedda4c, 0x482dbee4>  <       0,         0>
     ether_sock           <98>  <0xfd7b1874, 0x48302824>  <       0,         0>
    Fixup:
     l2_adj_rewrite       <86>  <0xfcec745c, 0x00000000>  <       0,         0>
     queue_fifo           <56>  <0xfcedda68, 0x482dbee4>  <       0,         0>
     txm_nopull           <60>  <0xfcea2a5c, 0x482dc11c>  <       0,         0>


Protocol SAFI counts:
--------------------

       Protocol        SAFI       Pkts In    Bytes In    Pkts Out   Bytes Out
---------------  ----------    ----------  ----------  ----------  ----------
           ipv4     Unicast             0           0           0           0
           ipv4   Multicast             0           0           0           0
           ipv4   Broadcast             0           0           0           0
           ipv6     Unicast             0           0           0           0
           ipv6   Multicast             0           0           0           0
```

This table describes the significant fields shown in the display.

Table 14: show netio idb Field Descriptions

Field	Description
name	Netio name associated with the interface.
interface handle	Value assigned to the interface by the netio for identification.
IN unknown proto pkts	Number of packets sent to netio that had an unknown protocol type.
IN unknown proto bytes	Number of bytes sent to netio that had an unknown protocol type.
IN multicast pkts	Number of ingress multicast packets for the interface.
OUT multicast pkts	Number of egress multicast packets for the interface.

Field	Description
IN broadcast pkts	Number of ingress broadcast packets for the interface.
OUT broadcast pkts	Number of egress broadcast packets for the interface.
IN drop pkts	Number of ingress dropped packets for the interface.
OUT drop pkts	Number of egress dropped packets for the interface.
IN errors pkts	Number of ingress errored packets for the interface.
OUT errors pkts	Number of egress errored packets for the interface.
Base decap chain	Lowest-level decap chain assigned to the interface.
Protocol chains	Layer 3 protocol chains assigned to the interface.
Type	Layer 3 protocol type.
drop pkts, drop bytes	Dropped packet and byte counters associated with the protocol.
Endcap	Processing steps in the encap chain.
Decap	Processing steps in the decap chain.
Fixup	Processing steps in the fixup chain.
Protocol SAFI counts	Unicast or multicast counts associated with the protocol.
Protocol	Protocol type.
SAFI	Secondary address family identifier type.
Pkts In	Number of packets in for the address family.
Bytes In	Number of bytes in for the address family.
Pkts Out	Number of packets out for the address family.
Bytes Out	Number of bytes out for the address family.

Related Commands

Command	Description
show netio chains	Displays Netio chains information.

Command	Description
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.
show netio trace	Displays Netio trace data.

show netio media-registrations

To display Network Input and Output (Netio) protocol registrations for media changes, use the **show netio media-registrations** command in XR EXEC mode.

show netio media-registrations[**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays Netio protocol registrations for media changes for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio media-registrations** command:

```
RP/0/RP0/CPU0:router# show netio media-registrations location 0/2/0

Registrations by L3 for media (change/upgrade) changes
L3 Protocol      Callback    L2 Media
-----------------------------------------
clns             0x795f978c  atm_mux_vc
                             atm_nlpid_vc
                             atm_snap_vc
                             atm_sub
                             dot1q
                             ether
                             fint_base
                             fr_sub_base
                             fr_vc_base
                             hdlc
```

```
                                srp
ipv4                0x79af58e8  atm_mux_vc
                                atm_nlpid_vc
                                atm_snap_vc
                                atm_sub
                                dot1q
                                ether
                                fint_base
                                fr_sub_base
                                fr_vc_base
                                hdlc
                                srp
ipv6                0x796a45e8  atm_mux_vc
                                atm_nlpid_vc
                                atm_snap_vc
                                atm_sub
                                dot1q
                                ether
                                fint_base
                                fr
                                hdlc
                                srp
mpls                0x79c66d14  atm_nlpid_vc
                                atm_snap_vc
                                atm_sub
                                dot1q
                                ether
                                fint_base
                                hdlc
                                ppp
                                srp
lpts                0x79563174  fint_base
ipv6_preroute       0x796a456c  fint_base
```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.
show netio idb	Displays Netio IDB information.
show netio subblock	Displays Netio subblock information.
show netio trace	Displays Netio trace data.

show netio subblock

To display Network Input and Output (Netio) subblock information, use the **show netio subblock** command in XR EXEC mode.

show netio subblock {**idb** {*interface-typeinterface-instance*} | **registrations** } [**location** *node-id*]

Syntax Description

idb	Displays subblock information for an interface.
registrations	Displays all the registered subblocks.
interface-type	Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	(Optional) Displays Netio subblock information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio subblock** command:

```
RP/0/RP0/CPU0:router# show netio subblock registrations location 0/2/2

Feature Name      Subblock List  Destroy Func           Handle
  <subblock addr> <intf handle>  <intf name>            <refcnt>
----------------  -------------  ---------------------  --------
ipv6-switch       0x0811cbfc     0x796ae090                    1
    <0x0806a6b0> <0x03000100>   <FINT0_2_CPU0          > <     3>
ether-caps        0x08198ba0     0x79f350b4                    2
    <0x0807aa44> <0x03000600>   <FastEthernet0_2_2_0   > <     3>
    <0x0807aa88> <0x03000700>   <FastEthernet0_2_2_1   > <     3>
    <0x0807aacc> <0x03000800>   <FastEthernet0_2_2_2   > <     3>
    <0x081c2758> <0x03000900>   <FastEthernet0_2_2_3   > <     3>
    <0x081c279c> <0x03000a00>   <FastEthernet0_2_2_4   > <     3>
    <0x081c27e0> <0x03000b00>   <FastEthernet0_2_2_5   > <     3>
    <0x081c2824> <0x03000c00>   <FastEthernet0_2_2_6   > <     3>
    <0x081c2868> <0x03000d00>   <FastEthernet0_2_2_7   > <     4>
fr_control_vc_base_caps  0x081bdf6c     0x7a0209c8                    3
    <0x081c2978> <0x03001a00>   <POS0_2_0_0.0_vc_0     > <     2>
    <0x081c29bc> <0x03001b00>   <POS0_2_0_1.0_vc_0     > <     2>
    <0x081c2a00> <0x03001c00>   <POS0_2_0_0.0_vc_1023  > <     2>
    <0x081c2a44> <0x03001d00>   <POS0_2_0_1.0_vc_1023  > <     2>
fr_vc_base_caps   0x08206424     0x7a020890                    4
    <0x081c2a88> <0x03001e00>   <POS0_2_0_0.1          > <     2>
    <0x081c2acc> <0x03001f00>   <POS0_2_0_1.1          > <     2>
```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.

Command	Description
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio trace	Displays Netio trace data.

show netio trace

To display Network Input and Output (Netio) trace information, use the **show netio trace** command in XR EXEC mode.

show netio trace {**all**| **chains**| **control**| **dpc**| **error**| **interface**| **perf**| **packet**} [*file*| *hexdump*| *last*| *location*| *reverse*| *stats*| *tailf*| *unique*| *usec*| *wide*| *verbose*| *wrapping*]

Syntax Description

all	Displays all Netio trace data
chains	Displays Netio chains trace data
control	Displays Netio control trace data
dpc	Displays Netio DPC trace data
error	Displays Netio error trace data
interface	Displays Netio interface trace data
perf	Displays Netio DLL performance trace data
packet	Displays Netio packet drop error messages trace data
file	(Optional) A specific file name traces in hexadecimal
hexdump	(Optional) Display traces in hexadecimal
last	(Optional) Displays the last n entries
location	(Optional) Displays the card location
reverse	(Optional) Displays the latest traces first
stats	(Optional) Displays statistics
tailf	(Optional) Displays new traces as added
unique	(Optional) Displays unique entries with counts

usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
verbose	(Optional) Displays internal debugging information
wrapping	(Optional) Displays wrapping entries

Command Default No default behavior or values.

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
cisco-support	read

Examples The following example shows the output of the **show netio trace** command:

```
RP/0/RP0/CPU0:router# show netio trace chains stats location 0/0/CPU0

/net/node0_0_CPU0/dev/shmem/ltrace/netio/chains--- wrapping: inf Mbytes/sec for 1024 entries
361 wrapping entries (1024 possible, 0 filtered, 361 total)
Jan 11 15:04:14.695 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 0 (base), caps 91 (fint_base), op ADD, chain BD, data len 0
Jan 11 15:04:15.070 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 81 (lpts), op ADD, chain D, data len 4
Jan 11 15:04:16.265 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 86 (l2_adj_rewrite), op ADD, chain E, data len 0
Jan 11 15:04:16.274 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 60 (txm_nopull), op ADD, chain E, data len 0
```

```
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 86 (l2_adj_rewrite), op ADD, chain F, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 60 (txm_nopull), op ADD, chain F, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 91 (fint_base), op ADD, chain E, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 81 (lpts), op ADD, chain E, data len 4
Jan 11 15:04:16.562 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 92 (fint_n2n), op ADD, chain D, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 86 (l2_adj_rewrite), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 60 (txm_nopull), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 86 (l2_adj_rewrite), op ADD, chain F, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 60 (txm_nopull), op ADD, chain F, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 91 (fint_base), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1  Chains: update IDB chain, ifhandle
0x01000100, prot
.
.
.
```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.

show sysdb connections

To display the client connection information for the system database (SYSDB), use the **show sysdb connections** command in XR EXEC mode.

show sysdb connections {**detail**| **job** *job-id*| **path** *path-filter*} **location** *node-id* {**shared-plane [standby]**| **shared-plane-nc [standby]**| **shared-plane-sc [standby]**}

Syntax Description

detail	Displays the detailed client connection information.
job *job-id*	Specify a Job ID.
path*path-filter*	Specify a path filter.
location *node-id*	Specify a location. The *node-id* argument is entered in the *rack/slot/module* notation.
shared-plane	Displays the shared-plane data.
shared-plane-nc	Displays the non-configuration shared-plane data.
shared-plane-sc	Displays the static configuration shared-plane data.
standby	(Optional) Displays the standby server data.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
sysmgr	read

Task ID	Operations
cisco-support	read

Examples

The following example shows the output of the **show sysdb connections** command.

```
RP/0/RP0/CPU0:router# show sysdb connections detail location 0/1/CPU0

SysDB Connections:
  "/debug/node/11/LR/sysdb/client/"
  From:      shmwin_svr (jid 76, nid 0/1/CPU0, tid 1)
  Connid:    00000001 Refcount: 0002 Options:   00000032
  Connected:        Y In trans:    N Verf susp:        N
  Client connid: 00000000
  Connected at: Jul 14 19:31:47.304
  "/debug/node/11/LR/packet/"
  From:      packet (jid 218, nid 0/1/CPU0, tid 1)
  Connid:    00000002 Refcount: 0002 Options:   00000032
  Connected:        Y In trans:    N Verf susp:        N
  Client connid: 00000000
  Connected at: Jul 14 19:31:47.305
  "/debug/node/11/LR/cdm/qsm/"
  From:      qsm (jid 246, nid 0/1/CPU0, tid 4)
  Connid:    00000003 Refcount: 0002 Options:   00000032
  Connected:        Y In trans:    N Verf susp:        N
  Client connid: 00000000
  Connected at: Jul 14 19:31:47.305
  "/debug/node/11/LR/eem/"
  From:      wdsysmon (jid 361, nid 0/1/CPU0, tid 5)
  Connid:    00000005 Refcount: 0002 Options:   00000032
  Connected:        Y In trans:    N Verf susp:        N
Client connid: 00000000
  Connected at: Jul 14 19:31:47.316
  "/debug/node/11/LR/sysmgr/"
  From:      sysmgr (jid 79, nid 0/1/CPU0, tid 7)
  Connid:    00000013 Refcount: 0002 Options:   00000032
...
```

show sysdb trace verification location

To display trace verification information for the system database (SYSDB), use the **show sysdb trace verification location** command in XR EXEC mode.

show sysdb trace verification location *node-id*

Syntax Description

node-id	Specific node. The *node-id* argument is entered in the *rack*/*slot*/*module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show sysdb trace verification shared-plane location** command to display details of recent verification sysDB transactions and changes on local plane configurations. The command output allows you to confirm that configuration were verified and accepted.

Task ID

Task ID	Operations
sysmgr	read
cisco-support	read

Examples

The following example shows the output of the **show sysdb trace verification shared-plane location** command. The output shows that changes to the SysDB local plane were verified and accepted.

```
RP/0/RP0/CPU0:router# show sysdb trace verification location 0/3/CPU0

Timestamp            jid       tid   reg handle  connid     action
             path
323 wrapping entries (4096 possible, 299 filtered, 622 total)
```

```
Jul  7 20:10:36.212      260       1     90       8782       apply reply
              '--'
Jul  7 20:10:35.476      260       1     90       4912       Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_0.1/a/sub_vlan/0x2/________/Gigab
itEthernet0_3_4_0/________'
Jul  7 20:10:35.475      260       1     90       4912       verify reply: accep
t             '--'
Jul  7 20:10:35.471      260       1     90       4912       Verify called
              'cfg/if/act/GigabitEthernet0_3_4_0.1/a/sub_vlan/0x2/________/Gigab
itEthernet0_3_4_0/________'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.471      144       1     4        8782       apply reply
              '--'
Jul  7 20:10:35.470      144       1     4        474        Apply/abort batch e
nded          ''
Jul  7 20:10:35.470      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_0/ord_x/im/shutdown'
Jul  7 20:10:35.470      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_1/ord_x/im/shutdown'
Jul  7 20:10:35.470      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_2/ord_x/im/shutdown'
Jul  7 20:10:35.470      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_3/ord_x/im/shutdown'
Jul  7 20:10:35.470      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_4/ord_x/im/shutdown'
Jul  7 20:10:35.469      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_5/ord_x/im/shutdown'
Jul  7 20:10:35.469      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_6/ord_x/im/shutdown'
Jul  7 20:10:35.469      144       1     4        474        Apply/abort called
              'cfg/if/act/GigabitEthernet0_3_4_7/ord_x/im/shutdown'
Jul  7 20:10:35.469      144       1     4        474        Apply/abort batch s
tarted        ''
Jul  7 20:10:35.469      144       1     4        474        verify reply: accep
t             '--'
Jul  7 20:10:35.469      144       1     4        474        verify reply: accep
t             '--'
Jul  7 20:10:35.469      144       1     4        474        verify reply: accep
t             '--'
!
!
!
```

This table describes the significant fields shown in the display.

Table 15: show sysdb trace verification location Field Descriptions

Field	Description
Timestamp	Time of the verification.
jid	Job identifier of the verification.
tid	Thread identifier.

Field	Description
reg handle	Registration handle.
connid	Connection identifier.
action	Action occurring between the sysDB server and client.
apply reply	SysDB notification that the client that an apply action has occurred.
Apply/abort called	SysDB notification for the client that an apply or abort has been called.
verify reply: accept	Verifier has accepted the verification request.

Related Commands

Command	Description
show sysdb connection path shared-plane	Displays system database client connection shared plane data for a specific path.

show sysdb trace verification shared-plane

To display trace verification information for the system database (SYSDB), use the **show sysdb trace verification shared-plane**command in XR EXEC mode.

show sysdb trace verification shared-plane [**file**| **hexdump**| **last**| **location**| **reverse**| **stats**| **tailf**| **unique**| **verbose**| **usec**| **wide**| **wrapping**]

Syntax Description

file	(Optional) Specifies the name of a file.
hexdump	(Optional) Displays the packet contents in hexadecimal format.
last	(Optional) Specifies the last number of packets in the queue to display.
location	(Optional) Displays the card location.
reverse	(Optional) Specifies the new traces as they are added.
stats	(Optional) Displays trace statistics information.
tailf	(Optional) Displays new traces as they are added.
unique	(Optional) Displays a list of unique entries with counts.
verbose	(Optional) Displays internal debugging information.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
wrapping	(Optional) Displays wrapping entries of all trace information.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show sysdb trace verification shared-plane** command to display details of recent verification sysDB transactions and changes on the shared plane. The command output allows you to confirm whether the configuration was verified correctly.

Specifying a path using the | **include** keyword and *path* argument filters the data to display only the sysDB path for the router. Use the **describe** command to determine the path.

Task ID

Task ID	Operations
sysmgr	read
cisco-support	read

Examples

The following example shows the output of the **show sysdb trace verification shared-plane**command. The output shows that changes to the SysDB shared plane were verified and accepted.

```
RP/0/RP0/CPU0:router# show sysdb trace verification shared-plane | include gl/a/hostname

May 18 19:16:17.143      340       3     210      962        Apply/abort called
              'cfg/gl/a/hostname'
May 18 19:16:17.132      340       3     210      962        Verify called
              'cfg/gl/a/hostname'
May 18 19:16:17.126      340       3     210      962        Apply/abort called
              'cfg/gl/a/hostname'
May 18 19:16:17.109      340       3     210      962        Verify called
              'cfg/gl/a/hostname'
May 18 18:43:16.065      340       3     210      962        register
              'cfg/gl/a/hostname'
May 18 18:41:41.048      340       3     16       362        register
              'cfg/gl/a/hostname'
```

This table describes the significant fields shown in the display.

Table 16: show sysdb trace verification shared-plane Field Descriptions

Field	Description
Apply/abort called	SysDB server has either applied or aborted the action requiring verification.
Verify called	Client has issued a verify request to the sysDB server.
register	Client has registered with sysDB server for verification.

Related Commands

Command	Description
show sysdb connection path shared-plane	Displays sysDB client connection shared plane data for a specific path.

show tbm hardware

To displays tree bitmap hardware-related information, use the **show tbm hardware** command in XR EXEC mode.

show tbm hardware {**ipv4**| **ipv6**| **mpls**| **vpnv4**| **table-id**| **afi-all**| **sw-only**| **dual**| **egress**| **ingress**} {**unicast**| **multicast**| **safi-all**} {**dual**| **egress**| **ingress**| **sw-only**} {**brief**| **detail**| **lookup**| **prefix prefix-hex-string**} **location** *node-id*

Syntax Description

ipv4	Specifies IP Version 4 address prefixes.
ipv6	Specifies IP Version 6 address prefixes.
mpls	Specifies MPLS-related tree bitmap information.
vpnv4	Specifies VPNv4-related tree bitmap information.
table-id	Specifies tree bitmap information for a specific table ID.
afi-all	Specifies IPv4 and IPv6 commands.
sw-only	Specifies software-only tree bitmap information.
dual	Specifies tree bitmap information for dual, ingress, and egress, modes.
egress	Specifies egress tree bitmap information.
ingress	Specifies ingress tree bitmap information.
unicast	Specifies unicast address prefixes.
multicast	Specifies multicast address prefixes. This option is supported for IPv4 address families.
safi-all	For subaddress family, specifies prefixes for all subaddress families. This option is supported for IPv4 address families.
dual	Specifies ingress and egress tree bitmap information.
brief	Displays brief information.
detail	Displays detailed information.
lookup	Displays key or address information to look up (longest match) in the table.
prefix	Displays prefix-related information.
location *node-id*	Displays tree bitmap hardware-related information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default No default behavior or values

Command Modes XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show tbm hardware**command to display hardware-related ingress and egress information for the tree bitmap.

Task ID

Task ID	Operations
cisco-support	read

Examples The following example shows the output of the **show tbm hardware** command:

```
RP/0/RP0/CPU0:router# show tbm hardware ipv4 unicast dual detail location 0/6/cpu0

TBM Table Type: IPv4 Unicast
------------------------------
TBM: number of pulses: 71
TBM: number of Err fix attempts: 0
     No current failures
Past failures: leaf(0), mem(0), mipc(0), flush_mipc(0)
               post_compact(0), pre_compact(0)

PLU Bucket Statistics:
----------------------------
     Bucket 0: 44
     Bucket 1: 44
     Bucket 2: 327
     Bucket 3: 44
     Bucket 4: 44
     Bucket 5: 43
     Bucket 6: 43
     Bucket 7: 45

Ingress PLU Info
----------------
    PLU: Num Writes : 3064
    PLU: Num Copies : 2197

    PLU Memory Channel Statistics:
    ----------------------------
```

```
      Number of compactions: 0
         FCRAM0 Chan:      110 (Pages: 5, 1% used)
         FCRAM1 Chan:      125 (Pages: 8, 0% used)
         FCRAM2 Chan:      127 (Pages: 8, 0% used)
         FCRAM3 Chan:      148 (Pages: 8, 0% used)
         FCRAM4 Chan:      124 (Pages: 8, 0% used)

Egress PLU Info
---------------
    PLU: Num Writes : 3064
    PLU: Num Copies : 2197

    PLU Memory Channel Statistics:
    ------------------------------
      Number of compactions: 0
         FCRAM0 Chan:      110 (Pages: 5, 1% used)
         FCRAM1 Chan:      125 (Pages: 8, 0% used)
         FCRAM2 Chan:      127 (Pages: 8, 0% used)
         FCRAM3 Chan:      148 (Pages: 8, 0% used)
         FCRAM4 Chan:      124 (Pages: 8, 0% used)
```

This table describes the significant fields shown in the display.

Table 17: show tbm hardware Field Descriptions

Field	Description
Past failures	Number of times there was a failure in programming hardware.
PLU: Num Writes	Number of writes to the PLU portion of the hardware.
PLU: Num Copies	Number of copies to the PLU portion of the hardware.
PLU Memory Channel Statistics	Usage levels of each channel in the PLU memory.

show uidb data

To display index data information for the micro-interface descriptor block (uIDB), use the **show uidb data**command in XR EXEC mode.

show uidb data [shadow] [**ingress**| **egress**] [*interface-type interface-instance*] **location** *node-id*

Syntax Description

shadow	(Optional) Displays uIDB data from shadow copy Route Skill Mapping (RSM) instead of Metro HW.
ingress	(Optional) Displays ingress PSE-related information.
egress	(Optional) Displays egress PSE-related information.
interface-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	(Optional) Displays micro-IDB index data information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show uidb index** command to display micro-IDB index data information including, from a software perspective, features that are enabled on a selected interface.

Task ID

Task ID	Operations
cisco-support	read write

Examples

The following example shows the output of the **show uidb data** command:

```
RP/0/RP0/CPU0:router# show uidb data shadow ingress gigabitEthernet 0/2/4/4 loc 0/2/CPU0
------------------------------------------------------------------------------
  Location = 0/2/CPU0
  Ifname/Ifhandle = GigabitEthernet0_2_4_4 / 0x12800a0
  Index = 5
  Pse direction = INGRESS
  ==========================================
  *     (Not programmed in hardware)    *
  ------------------------------------------
  RSM STATUS: 0x7c000000
  -> used: 0x1f
  ->dirty: 0x00
  ->badck: 0x00
  -> prog: DONE
  ->count: 0
  ------------------------------------------
  BUNDLE IFHANDLE: 0
  TUNNEL IFHANDLE: 0
  L2 ENCAP: 3
  ==========================================

  General 16 bytes:
  -----------------------
  IFHANDLE: 0x12800a
  STATUS: 1
  ISSU State: 0
  IPV4 ENABLE: 1
  IPV6 ENABLE: 1
  MPLS ENABLE: 0
  STATS POINTER: 0x7ffd8
  SPRAYER QUEUE: 36
  IPV4 MULTICAST: 0
  IPV6 MULTICAST: 0
  USE TABLE ID IPV4: 0
  USE TABLE ID IPV6: 0
  USE TABLE ID MPLS: 0
```

```
  TABLE ID: 0
  QOS ENABLE: 0
  QOS ID: 0
  NETFLOW SAMPLING PERIOD: 0
  L2 PKT DROP: 0
  L2 QOS ENABLE: 0
  SRC FWDING: 0
  *[CHECKSUM]*: 0xff70f28c
```

This table describes the significant fields shown in the display.

Table 18: show uidb data Field Descriptions

Field	Description
Location	Node in system where the interface resides.
Ifname/Ifhandle	Name associated with the interface.
SPRAYER QUEUE LSB	Sprayer queue identifier.
ICMP PUNT FLAG	Flag indicating ICMP punts are enabled for the protocol.

The following example shows the output of the **show uidb data ingress loc 0/0/cpu0**command:

```
RP/0/RP0/CPU0:router# show uidb data ingress loc 0/0/cpu0
------------------------------------------------------------------------------
  Wed May 13 21:01:23.757 UTC
  Location = 0/0/CPU0
  Index = 0
  Pse direction = INGRESS
  ==========================================
  *     (Not programmed in hardware)    *
  ------------------------------------------
  RSM STATUS: 0x4000000
  -> used: 0x01
  ->dirty: 0x00
  ->badck: 0x00
  -> prog: DONE
  ->count: 0
  ------------------------------------------
  ==========================================

  Global 16 bytes:
  ------------------------
  ROUTER_ID: 185.127.121.191
  MINIMUM MASK DESTINATION: 0 / 0
  MINIMUM MASK SOURCE: 0 / 0
  BYTES OF SNIFF PACKET: 0
  SUPPRESS PUNT ACL: 0
  MPLS PROPAGATE TTL FLAG: 1
  LOAD BALANCING HASH: 7 tuple(1)
  PARITY: 0
  FABRIC QOS ENABLE FLAG: 0
  GLOBAL LI ENABLE FLAG: 0
  GLOBAL FRR FLAG: 0
  GLOBAL L2TPV3 BISCUIT FLAG: 1
  P2MP L3FIB RESET: 0
  *[CHECKSUM]*: 0x46804630
------------------------------------------------------------------------------
```

Related Commands

Command	Description
show uidb trace, on page 109	Displays UIDB trace data debugging information that helps in troubleshooting the problem.
show uidb data-dump	Displays UIDB data information in hexadecimal format.

show uidb trace

To display trace data information for the micro-interface descriptor block (IDB), use the **show uidb trace** command in XR EXEC mode.

show uidb trace {**all**| **errors**| **events**| **init**| **rdm**| **server-errors**| **server-events**}[**file** *file-name*] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [usec] [verbose] [wide] [wrapping]** [**location** {*node-id*| **all**| **mgmt-nodes**}]

Syntax Description

all	Displays all UIDB trace information.
errors	Displays information related to UIDB errors trace.
events	Displays information related to UIDB events trace.
init	Displays information related to UIDB init trace.
rdm	Displays information related to UIDB rdm trace.
server-errors	Displays information related to UIDB server error trace.
server-events	Displays information related to UIDB server event/info/init trace.
file	(Optional) Displays a specific file.
filename	Name of a specific file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays trace information for a specific number of entries
entries	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 65536.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics in the command output.
tailf	(Optional) Displays the new traces as they are added in the command output.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
unique	(Optional) Displays the unique entries with counts in the command output.
verbose	(Optional) Displays the information for internal debugging in the command output.

wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	(Optional) Specifies all locations.
location mgmt-nodes	(Optional) Specifies all management nodes.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read, write

Examples

The following example shows the sample output from the **show uidb trace** command:

```
RP/0/RP0/CPU0:router sh uidb trace init loc 0/6/CPU0
------------------------------------------------------------------------------
28 wrapping entries (512 possible, 0 filtered, 28 total)
Mar 31 02:27:35.368 uidb_svr/initlog 0/6/CPU0 t1  Entering : Event manager init
Mar 31 02:27:36.641 uidb_svr/initlog 0/6/CPU0 t1  Successful : Event manager int
Mar 31 02:27:36.641 uidb_svr/initlog 0/6/CPU0 t1  Entering : Debug init
Mar 31 02:27:36.816 uidb_svr/initlog 0/6/CPU0 t1  Successful : Debug init
Mar 31 02:27:36.816 uidb_svr/initlog 0/6/CPU0 t1  Entering : MIPC bund
Mar 31 02:27:51.695 uidb_svr/initlog 0/6/CPU0 t1  Successful : MIPC bind
Mar 31 02:27:51.695 uidb_svr/initlog 0/6/CPU0 t1  PSE RSM : Init - main() : (50s
Mar 31 02:27:51.803 uidb_svr/initlog 0/6/CPU0 t1  Successful : PSE RSM Init sucd
Mar 31 02:27:51.803 uidb_svr/initlog 0/6/CPU0 t1  Entering : Metro bind
Mar 31 02:27:51.828 uidb_svr/initlog 0/6/CPU0 t1  Successful : Metro bind
Mar 31 02:27:51.828 uidb_svr/initlog 0/6/CPU0 t1  Entering : PLIM ASIC register
Mar 31 02:27:51.922 uidb_svr/initlog 0/6/CPU0 t1  Successful : PLIM ASIC registr
Mar 31 02:27:51.922 uidb_svr/initlog 0/6/CPU0 t1  Entering : UIDB checkpoint int
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1  Successful : UIDB checkpoint t
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1  Entering : UIDB shadow memoryt
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1  Successful : UIDB shadow memot
```

```
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1  Entering : UIDB EDM init
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1  Successful : UIDB EDM init
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1  Entering : Checkpoint ingresse
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1  Successful : Checkpoint ingree
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1  Entering : Checkpoint egress e
```

Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Successful : Checkpoint egrese

Related Commands

Command	Description
show uidb data, on page 105	Displays UIDB index data information.
show uidb data-dump	Displays UIDB data information in hexadecimal format.

show uidb index

To display micro-interface descriptor block (IDB) index information, use the **show uidb index** command in XR EXEC mode.

show uidb index [*interface-type interface-instance*] **location** *node-id*

Syntax Description

interface-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
interface-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 *node-id*	Displays UIDB index information for a specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show uidb index**command to display the micro-IDB index assigned by the software.

Task ID

Task ID	Operations
cisco-support	read write

Examples

The following example shows the output of the **show uidb index** command:

```
RP/0/RP0/CPU0:router# show uidb index

------------------------------------------------------------------------------
 Location        Interface-name   Interface-Type    NPU   UIDB-indices
------------------------------------------------------------------------------
  0/5/CPU0   HundredGigE0_5_0_0   Main Interface   0      1
  0/5/CPU0   HundredGigE0_5_0_1   Main Interface   0      2
```

This table describes the significant fields shown in the display.

Table 19: show uidb index Field Descriptions

Field	Description
Location	Node where index is located.
Interface-name	Name of the interface.
Interface-Type	Type of interface.

Related Commands

Command	Description
show uidb data, on page 105	Displays micro-interface descriptor block index data information.
show uidb data-dump	Displays micro-interface descriptor block data information in hexadecimal format.

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.

show system verify

To verify the system parameters, use the **show system verify** command in XR 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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 20: show system verify Field Descriptions

Field	Description
Type	Type of memory
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 aborted 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
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

Field	Description
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
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 XR EXEC mode.

show tech-support [password] [**file** *send-to* **[background]** [**compressed**| **uncompressed**]] **[rack]**[**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	(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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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) Specifies a list of racks.

Command Default

The command output is not compressed.

Passwords and other security information are not displayed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 bcdl

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

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

Syntax Description

bcdl-group	(Optional) Name of the BCDL group.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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) Specifies a list of racks.

Command Default

The command output is not compressed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

show tech-support bundles [**interface** *type interface-path-id*] [**file** *sent-to*] **[background]** [**compressed**| **uncompressed**]

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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
basic-services	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 XR EXEC mode.

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

Syntax Description

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.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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) Specifies CEF interface status and configuration.
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.

Command Default

IPv4 is the default.

The command output is not compressed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
basic-services	read
sysmgr	read
cisco-support	read

show tech-support ethernet

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

show tech-support [**file** *send-to* **[background]** [**compressed**| **uncompressed**]] [**interface** *interface-type interface-instance*] [**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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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.
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.

Command Default

IPv4 is the default.

The command output is compressed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 version**
- **show running**
- **show route** {**ipv4** | **ipv6**} **unicast**
- **show proc blocked**
- **show ethernet** {**ipv4** | **ipv6** | **mpls**} **exceptions**
- **show ethernet** {**ipv4** | **ipv6** | **mpls**} **drop**
- **show ipv4 interface brief**
- **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
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 XR EXEC mode.

show tech-support fabric [**file** *sent-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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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) Specifies a list of rack.

Command Default

The command output is not compressed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
cisco-support	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 XR EXEC mode.

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

Syntax Description

client	(Optional) Displays the client tech-support information.
group	(Optional) Displays the group tech-support information.
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.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 install

To automatically run **show** commands that display information specific to installation information, use the **show tech-support install** command in the XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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	read

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 XR EXEC mode.

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

Syntax Description

verbosity	Specifies the verbosity. The *verbosity* argument is expressed in number and has valid range from 1 through 4. • 1: brief • 2: detail • 3: detail+trace (dflt) • 4: extended
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

show tech-support mpls rsvp {**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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

show tech-support mpls traffic-eng {**forwarding tunnel-name** *tunnel-name* **p2mp| tp**| **file** *send-to* **[background]** [**compressed| uncompressed**]| **terminal [page]**}

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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *filename* • **tftp:** *filename*
tp	Displays Transport Profile Information.
forwarding	Displays forwarding information for a tunnel.
	Displays forwarding information for a tunnel.
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.
tunnel-name	Specifies the tunnel name that is used by the RSVP process.
tunnel name	Name for the tunnel.
p2mp	Specifies P2MP tunnel.
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 XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

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

Syntax Description

address-family	(Optional) 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.
terminal	(Optional) 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).
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
basic-services	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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 qos

To automatically run **show** commands that display platform dependent and platform independent Quality of Service (QoS) debugging information, use the **show tech-support qos** command in XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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.
sent-to	Name of the file. The following valid options are listed: • *filename* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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

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 XR EXEC mode.

show tech-support rib {**ipv4 location** {**active**| **standby**}| **ipv6 location** {**active**| **standby**}} {**file** *send-to* **[background]** [**compressed**| **uncompressed**]| **terminal [page]**}

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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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.
ipv4	Displays the IPv4 command output.
ipv6	Displays the IPv6 command output.
active	Collects information from the Active RIB.
standby	Collects information from the Standby RIB.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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** *node-id*
- **show adjacency**
- **show bfd location**
- **show bfd session detail location** *node-id*
- **show bfd session agent detail location** *node-id*
- **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 controllers cpuctrl summary**
- **show controllers cpuctrl client pdma bfd active 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	read
cisco-support	read
ospf	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 XR EXEC mode.

show tech-support routing isis {**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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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

Examples

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

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

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

                            show tech-support isis

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


---------------------- show isis instance isp trace all -----------------------
184 wrapping entries (6144 possible, 0 filtered, 184 total)
Mar 29 08:38:18.437 isis/isp/sev 0/RP0/CPU0 t1  STARTUP_START
Mar 29 08:38:18.437 isis/isp/sev 0/RP0/CPU0 t1  STARTUP_MODULE
Mar 29 08:38:18.438 isis/isp/sev 0/RP0/CPU0 t1  STARTUP_MODULE
Mar 29 08:38:18.438 isis/isp/sev 0/RP0/CPU0 t1  THREAD_CREATING
Mar 29 08:38:18.451 isis/isp/det 0/RP0/CPU0 t1  THREAD_THREAD_ID
Mar 29 08:38:18.451 isis/isp/sev 0/RP0/CPU0 t1  THREAD_CREATING
Mar 29 08:38:18.451 isis/isp/sev 0/RP0/CPU0 t1  THREAD_CREATING
Mar 29 08:38:18.452 isis/isp/sev 0/RP0/CPU0 t1  THREAD_CREATING
Mar 29 08:38:18.452 isis/isp/sev 0/RP0/CPU0 t1  THREAD_CREATING
Mar 29 08:38:18.536 isis/isp/sev 0/RP0/CPU0 t1  STARTUP_MODULE
Mar 29 08:38:19.274 isis/isp/sev 0/RP0/CPU0 t1  STARTUP_MODULE
Mar 29 08:38:19.470 isis/isp/sev 0/RP0/CPU0 t1  IO_PAK_SERVER_CONNECTED
Mar 29 08:38:19.551 isis/isp/det 0/RP0/CPU0 t1  IO_SOCKET_CREATE_SUCCESS
Mar 29 08:38:19.555 isis/isp/sev 0/RP0/CPU0 t1  IO_SOCKET_CONN_OPEN
Mar 29 08:38:20.561 isis/isp/std 0/RP0/CPU0 t1  ROUTE_RIB_PURGE_TIME_SET
.
.
.
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4  THREAD_FOP_PROCESS
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4  SSM_TICK_TIMER_FIRES CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4  SSM_STATE_RESULT CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4  SSM_STATE_TIME_BUDGET CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/sev 0/RP0/CPU0 t4  SSM_STATE_RUN CR-SYNC-LSPDB

------------------------------- show isis all --------------------------------

No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
IS-IS Router: isp
  System Id: 0000.0000.0000 (Not configured, protocol disabled)
  IS Levels: level-1-2
  Manual area address(es):
  Routing for area address(es):
  Non-stop forwarding: Disabled
  Most recent startup mode: Cold Restart
  Topologies supported by IS-IS:
    IPv4 Unicast
      No protocols redistributed
      Distance: 115
  Interfaces supported by IS-IS:
    POS0/1/0/0 is disabled (active in configuration)

No IS-IS isp host data available

IS-IS isp Interfaces
POS0/1/0/0                  Disabled (No NET configured)

IS-IS isp Interfaces
    Interface      All     Adjs    Adj Topos  Adv Topos  CLNS   MTU    Prio
                   OK    L1   L2    Run/Cfg    Run/Cfg                 L1   L2
-----------------  ---  ---------  ---------  ---------  ----  ----  --------
PO0/1/0/0          No
```

```
No IS-IS isp mesh-groups found

IS-IS isp statistics:
  IS-IS statistics:
    Fast PSNP cache (hits/tries): 0/0
    LSP checksum errors received: 0
    LSP Dropped: 0
    SNP Dropped: 0
    UPD Max Queue size: 0

IS-IS isp neighbor summary:
State         L1       L2     L1L2
Up             0        0        0
Init           0        0        0
Failed         0        0        0

IS-IS isp neighbors:
System Id      Interface        SNPA           State Holdtime Type IETF-NSF

IS-IS isp Database Summary for all LSPs
                            Active              Purged               All
                         L1    L2   Total   L1    L2   Total   L1    L2   Total
                        ----- ----- -----  ----- ----- -----  ----- ----- -----
Fragment 0 Counts
           Router LSPs:     0     0     0      0     0     0      0     0     0
      Pseudo-node LSPs:     0     0     0      0     0     0      0     0     0
              All LSPs:     0     0     0      0     0     0      0     0     0

All Fragment Counts
           Router LSPs:     0     0     0      0     0     0      0     0     0
      Pseudo-node LSPs:     0     0     0      0     0     0      0     0     0
              All LSPs:     0     0     0      0     0     0      0     0     0

IS-IS isp IS Topology Summary IPv4 Unicast
                          L1                          L2
                Reach  UnReach  Total      Reach  UnReach  Total
               ------- ------- -------    ------- ------- -------
Router nodes:        0       0       0          0       0       0
Pseudo nodes:        0       0       0          0       0       0

 Total nodes:        0       0       0          0       0       0

IS-IS isp IPv4 Unicast routes

Codes: L1 - level 1, L2 - level 2, ia - interarea (leaked into level 1)
       df - level 1 default (closest attached router), su - summary null
       C - connected, S - static, R - RIP, B - BGP, O - OSPF
       i - IS-IS (redistributed from another instance)

Maximum parallel path count: 8

IS-IS isp checkpoint interface
Interface         Handle    CircNum  DIS Areas    Adj  Chkpt ID
No 'checkpoint interfaces' found in IS-IS isp

IS-IS isp checkpoint adjacencies
System ID      Interface        SNPA           Lvl  Hold Pri  CID  Chkpt ID Nexthops
No 'checkpoint adjacencies' found in IS-IS isp

IS-IS isp checkpoint LSPs
Level  LSPID                  Chkpt ID
  No 'checkpoint LSPs' found in IS-IS isp

 Total LSP count: 0 (L1: 0, L2 0, local L1: 0, local L2 0)

---------------------------- show clns statistics -----------------------------
CLNS Statistics:
Last counter clear:                   1067929 seconds ago
Total number of packets sent:         0
Total number of packets received:     0
Send packets dropped, total:          0
Send packets dropped, buffer overflow: 0
```

```
Send packets dropped, out of memory:   0
Send packets dropped, netio:           0
Send packets dropped, other:           0
Receive socket max queue size:         0
Receive packets dropped, total:        0
Receive packets dropped, other:        0
Receive packets dropped per pdu class:

Class    Overflow/Max   Rate Limit/Max
IIH             0/0             0/0
LSP             0/0             0/0
SNP             0/0             0/0
OTHER           0/0             0/0
Total          0               0

--------------------------- show imds interface all ---------------------------
IMDS INTERFACE DATA (Node 0x201)

MgmtEth0_RP0_CPU0_0 (0x00080000)
------------------------
flags: 0x0001002f    type: 8 (IFT_ETHERNET)    encap: 30 (ether)
state: 3 (up)     mtu: 1514    protocol count: 4
control parent: 0x00000000     data parent: 0x00000000
       protocol         capsulation           state        mtu
    --------------- -------------------- --------------- --------
    7 (arp)
.
```

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 XR EXEC mode.

show tech-support routing ospf {**active**| **no-trace**| **standby**} {**terminal [page]**| **file** *send-to* **[background]** [**compressed**| **uncompressed**]}

Syntax Description

no-trace	Excludes trace information from the command output.
active	Displays information from active route processor only.
standby	Displays information from standby route processor only.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

show tech-support routing ospfv3 {*instance*| **detail**| **terminal [page]**| **file** *send-to* **[background]** [**compressed**| **uncompressed**]}

Syntax Description

instance	Name of the OSPFv3 instance.
detail	Displays all available OSPFv3 information.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
cisco-support	read
ospf	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 XR EXEC mode.

show tech-support routing rpl [**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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *filename* • **tftp:** *filename*
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.
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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR EXEC mode.

show tech-support serial [**interface** *type instance*] **[show-only] [rack]**[**file** *send-to* **[background]** [**compressed**| **uncompressed**]]**[trace-only]** [**location** *node-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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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	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.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 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 XR EXEC mode.

show tech-support services svi [**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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 XR 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.
rack	(Optional) Displays the list of racks.
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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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.
all	(Optional) Specifies all locations.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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 sysdb

To automatically run **show** commands that display information specific to the System Database (SysDB), use the **show tech-support sysdb** command in XR EXEC mode.

show tech-support sysdb [**file** *send-to* **[background]** [**compressed**| **uncompressed**]] **[rack]** [**location** *node-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* • **disk0:** *filename* • **disk1:** *filename* • **harddisk:** *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

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

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
basic-services	read

Watchdog Commands

This module describes commands used to monitor the memory states and thresholds of routers running Cisco IOS XR software.

show critmon context

To display information about the context for the wd-critical-mon process, use the **show critmon context** command in XR EXEC mode.

show critmon context {**all**| **deadline** [**client** *client-name*]| **ticker**| **watcher**} **location** {*node-id*| **all**}

Syntax Description

all	Displays all context information for the wd-critical-mon process.
deadline	Displays the context information for the deadline monitoring client application.
client	(Optional) Displays information only for the specified client.
client-name	Name of the client.
ticker	Displays information for the ticker context for the wd-critical-mon process.
watcher	Displays information for the watcher context for the wd-critical-mon process.
location	Specifies a node to filter.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show critmon context** command to display information about the context for the wd-critical-mon process.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following sample output is from the **show critmon context** command:

```
RP/0/RP0/CPU0:router# show critmon context all location all

------------------------------------------------------------------------------
Ticker context info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 CPU#                      : 0
 Ticker counter            : 2245
 Ticker last ran timestamp : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Watcher context info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 Watcher counter  : 751
 Watcher last ran : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Deadline monitoring context info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 Client         : wdsysmon
 PunchTimestamp : 02/10/2008 01:11:09
 PunchCounter   : 226


------------------------------------------------------------------------------
Ticker context info (Node: 0/4/CPU0)
------------------------------------------------------------------------------
 CPU#                      : 0
 Ticker counter            : 74
 Ticker last ran timestamp : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Watcher context info (Node: 0/4/CPU0)
------------------------------------------------------------------------------
 Watcher counter  : 24
 Watcher last ran : 02/10/2008 01:11:09


------------------------------------------------------------------------------
Deadline monitoring context info (Node: 0/4/CPU0)
------------------------------------------------------------------------------
 Client         : wdsysmon
 PunchTimestamp : 02/10/2008 01:11:10
 PunchCounter   : 8


------------------------------------------------------------------------------
Ticker context info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 CPU#                      : 0
 Ticker counter            : 61
 Ticker last ran timestamp : 02/10/2008 01:11:10
```

```
------------------------------------------------------------------------------
Watcher context info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 Watcher counter  : 21
 Watcher last ran : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Deadline monitoring context info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 Client         : wdsysmon
 PunchTimestamp : 02/10/2008 01:11:09
 PunchCounter   : 6


------------------------------------------------------------------------------
Ticker context info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 CPU#                      : 0
 Ticker counter            : 2093
 Ticker last ran timestamp : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Watcher context info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 Watcher counter  : 703
 Watcher last ran : 02/10/2008 01:11:10


------------------------------------------------------------------------------
Deadline monitoring context info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 Client         : wdsysmon
 PunchTimestamp : 02/10/2008 01:11:09
 PunchCounter   : 211
```

This table describes the significant fields shown in the display.

Table 21: show critmon context Field Descriptions

Field	Description
Ticker context info	wd-critical-mon process ticker context information for the node.
CPU	CPU number.
Ticker counter	Current counter for the wd-critical-mon ticker thread. The ticker counter field specifies the number of times the ticker thread was run.
Ticker last ran timestamp	Timestamp for the last time the wd-critical-mon ticker thread was run.
Watcher context info	wd-critical-mon watcher thread context information that is used for the node.

Field	Description
Watcher counter	Current counter for the wd-critical-mon watcher thread. The watcher counter field specifies the number of times the watcher thread was run
Watcher last ran	Timestamp that is used for the last run of the wd-critical-mon watcher thread.
Deadline monitoring context info	wd-critical-mon deadline monitoring information that is used for the node.
Client	Client name for deadline monitoring.
PunchTimestamp	Timestamp that is used for the last run of the client application.
PunchCounter	Current counter for the deadline monitoring client. This field specifies the number of times that the client application can punch the counter.

Related Commands

Command	Description
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon deadline

To display information about deadline monitoring, use the **show critmon deadline** command in XR EXEC mode

show critmon deadline registration [**client** *client-name*] **location** {*node-id*| **all**}

Syntax Description

registration	Displays the deadline monitoring registration information.
client	(Optional) Displays information only for the specified client.
client-name	Name of the client.
location	Specifies a node to filter.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show critmon deadline** command to display information about the deadline monitoring.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following sample output is from the **show critmon deadline** command:

```
RP/0/RP0/CPU0:router# show critmon deadline registration location all

------------------------------------------------------------------------------
Deadline monitoring registration info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 ID ClientName               Activated  tick address  timeout vale(sec)
 -- -----------------------  ---------  ------------  ----------------
 0  wdsysmon                 Yes        0x6023d000    60

------------------------------------------------------------------------------
Deadline monitoring registration info (Node: 0/4/CPU0)
------------------------------------------------------------------------------
 ID ClientName               Activated  tick address  timeout vale(sec)
 -- -----------------------  ---------  ------------  ----------------
 0  wdsysmon                 Yes        0x38146000    60

------------------------------------------------------------------------------
Deadline monitoring registration info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 ID ClientName               Activated  tick address  timeout vale(sec)
 -- -----------------------  ---------  ------------  ----------------
 0  wdsysmon                 Yes        0x38146000    60

------------------------------------------------------------------------------
Deadline monitoring registration info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 ID ClientName               Activated  tick address  timeout vale(sec)
 -- -----------------------  ---------  ------------  ----------------
 0  wdsysmon                 Yes        0x38101000    60
```

This table describes the significant fields shown in the display.

Table 22: show critmon deadline Field Descriptions

Field	Description
Deadline monitoring registration info	Deadline monitoring registration information that is used for the node.
ID	Client ID that is internally managed by the wd-critical-mon process.
ClientName	Name of the client.
Activated	Field specifies that deadline monitoring is activated or not.
tick address	Tick memory address for the client application.
timeout vale(sec)	Deadline timeout value.

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon statistics

To display information about the critical monitor statistics, use the **show critmon statistics** command in XR EXEC mode.

show critmon statistics {**all**| **congestion**| **deadline client** *client-name*| **ticker**| **watcher**} **last** *hours* **location** {*node-id*| **all**}

Syntax Description

all	Displays all the information for the critical monitor.
congestion	Displays all the CPU congestion information for the critical monitor.
deadline	Displays all the statistics information for the deadline monitor.
client	Displays information only for the specified client.
client-name	Name of the client.
ticker	Displays the ticker statistics for the wd-critical-mon process.
watcher	Displays the watcher statistics for the wd-critical-mon process.
last	Displays only the last number of hours.
hours	Number of last hours. The range is from 1 to 24.
location	Specifies a node to filter.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the**show critmon statistics** command to display information about the critical monitor statistics.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following sample output is from the **show critmon statistics** command:

```
RP/0/RP0/CPU0:router# show critmon statistics all last 5 location all

------------------------------------------------------------------------------
Ticker statistics info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 Period        SnapShotTimestamp               Frequency
 (min)  CPU#   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------ ------ -------------------  ----------  ------------
 15     cpu:0  10/22/2007 14:33:39  4478        298
 15     cpu:0  10/22/2007 14:48:39  4477        298
 15     cpu:0  10/22/2007 15:03:39  4478        298
 15     cpu:0  10/22/2007 15:18:39  4477        298
 15     cpu:0  10/22/2007 15:33:39  4478        298
 15     cpu:0  10/22/2007 15:48:39  4478        298
 15     cpu:0  10/22/2007 16:03:39  4477        298
 15     cpu:0  10/22/2007 16:18:39  4478        298
 15     cpu:0  10/22/2007 16:33:39  4477        298
 15     cpu:0  10/22/2007 16:48:39  4478        298
 15     cpu:0  10/22/2007 17:03:39  4477        298
 15     cpu:0  10/22/2007 17:18:39  4478        298
 15     cpu:0  10/22/2007 17:33:39  4477        298
 15     cpu:0  10/22/2007 17:48:39  4478        298
 15     cpu:0  10/22/2007 18:03:39  4477        298
 15     cpu:0  10/22/2007 18:18:39  4478        298
 15     cpu:0  10/22/2007 18:33:39  4478        298
 15     cpu:0  10/22/2007 18:48:39  4477        298
 15     cpu:0  10/22/2007 19:03:39  4477        298
 15     cpu:0  10/22/2007 19:18:39  4478        298


------------------------------------------------------------------------------
Watcher statistics info (Node: 0/5/CPU0)
------------------------------------------------------------------------------
 Period SnapShotTimestamp                Frequency
 (min)  MM/DD/YYYY hh:mm:ss  watch count  (count/min)
 ------ -------------------  -----------  ------------
 15     10/22/2007 14:33:39  1498         99
 15     10/22/2007 14:48:39  1497         99
 15     10/22/2007 15:03:39  1498         99
 15     10/22/2007 15:18:39  1497         99
 15     10/22/2007 15:33:39  1498         99
 15     10/22/2007 15:48:39  1497         99
 15     10/22/2007 16:03:39  1498         99
 15     10/22/2007 16:18:39  1497         99
 15     10/22/2007 16:33:39  1498         99
 15     10/22/2007 16:48:39  1497         99
 15     10/22/2007 17:03:39  1498         99
 15     10/22/2007 17:18:39  1497         99
 15     10/22/2007 17:33:39  1498         99
```

```
 15     10/22/2007 17:48:39  1497         99
 15     10/22/2007 18:03:39  1498         99
 15     10/22/2007 18:18:39  1497         99
 15     10/22/2007 18:33:39  1498         99
 15     10/22/2007 18:48:39  1497         99
 15     10/22/2007 19:03:39  1498         99
 15     10/22/2007 19:18:39  1497         99


--------------------------------------------------------------------------------
CPU congestion history (Node: 0/5/CPU0)
--------------------------------------------------------------------------------

 No congestion history


--------------------------------------------------------------------------------
Deadline monitoring statistics info (Node: 0/5/CPU0)
--------------------------------------------------------------------------------
 client                   SnapShotTimestamp                Frequency
 (name)                   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------------------------ -------------------  ----------  ------------
 wdsysmon                 10/22/2007 14:33:39  450         30
 wdsysmon                 10/22/2007 14:48:39  450         30
 wdsysmon                 10/22/2007 15:03:39  450         30
 wdsysmon                 10/22/2007 15:18:39  449         29
 wdsysmon                 10/22/2007 15:33:39  450         30
 wdsysmon                 10/22/2007 15:48:39  450         30
 wdsysmon                 10/22/2007 16:03:39  450         30
 wdsysmon                 10/22/2007 16:18:39  449         29
 wdsysmon                 10/22/2007 16:33:39  450         30
 wdsysmon                 10/22/2007 16:48:39  450         30
 wdsysmon                 10/22/2007 17:03:39  450         30
 wdsysmon                 10/22/2007 17:18:39  450         30
 wdsysmon                 10/22/2007 17:33:39  449         29
 wdsysmon                 10/22/2007 17:48:39  450         30
 wdsysmon                 10/22/2007 18:03:39  450         30
 wdsysmon                 10/22/2007 18:18:39  450         30
 wdsysmon                 10/22/2007 18:33:39  449         29
 wdsysmon                 10/22/2007 18:48:39  450         30
 wdsysmon                 10/22/2007 19:03:39  450         30
 wdsysmon                 10/22/2007 19:18:39  450         30


--------------------------------------------------------------------------------
Ticker statistics info (Node: 0/4/CPU0)
--------------------------------------------------------------------------------
 Period        SnapShotTimestamp                Frequency
 (min)  CPU#   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------ ------ -------------------  ----------  ------------
 15     cpu:0  10/22/2007 14:25:38  4454        296
 15     cpu:0  10/22/2007 14:40:38  4455        297
 15     cpu:0  10/22/2007 14:55:38  4454        296
 15     cpu:0  10/22/2007 15:10:37  4455        297
 15     cpu:0  10/22/2007 15:25:37  4454        296
 15     cpu:0  10/22/2007 15:40:37  4455        297
 15     cpu:0  10/22/2007 15:55:37  4454        296
 15     cpu:0  10/22/2007 16:10:37  4455        297
 15     cpu:0  10/22/2007 16:25:37  4455        297
 15     cpu:0  10/22/2007 16:40:37  4454        296
 15     cpu:0  10/22/2007 16:55:37  4455        297
 15     cpu:0  10/22/2007 17:10:37  4455        297
 15     cpu:0  10/22/2007 17:25:37  4455        297
 15     cpu:0  10/22/2007 17:40:37  4454        296
 15     cpu:0  10/22/2007 17:55:37  4455        297
 15     cpu:0  10/22/2007 18:10:37  4454        296
 15     cpu:0  10/22/2007 18:25:37  4454        296
 15     cpu:0  10/22/2007 18:40:37  4455        297
 15     cpu:0  10/22/2007 18:55:36  4455        297
 15     cpu:0  10/22/2007 19:10:36  4455        297


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

```
Watcher statistics info (Node: 0/4/CPU0)
--------------------------------------------------------------------------------
 Period SnapShotTimestamp                  Frequency
 (min)  MM/DD/YYYY hh:mm:ss  watch count  (count/min)
 ------ -------------------  -----------  ------------
 15     10/22/2007 14:25:38  1496         99
 15     10/22/2007 14:40:38  1495         99
 15     10/22/2007 14:55:38  1495         99
 15     10/22/2007 15:10:37  1495         99
 15     10/22/2007 15:25:37  1495         99
 15     10/22/2007 15:40:37  1495         99
 15     10/22/2007 15:55:37  1495         99
 15     10/22/2007 16:10:37  1495         99
 15     10/22/2007 16:25:37  1495         99
 15     10/22/2007 16:40:37  1495         99
 15     10/22/2007 16:55:37  1495         99
 15     10/22/2007 17:10:37  1495         99
 15     10/22/2007 17:25:37  1495         99
 15     10/22/2007 17:40:37  1495         99
 15     10/22/2007 17:55:37  1495         99
 15     10/22/2007 18:10:37  1495         99
 15     10/22/2007 18:25:37  1495         99
 15     10/22/2007 18:40:37  1495         99
 15     10/22/2007 18:55:36  1495         99
 15     10/22/2007 19:10:36  1495         99


--------------------------------------------------------------------------------
CPU congestion history (Node: 0/4/CPU0)
--------------------------------------------------------------------------------

 No congestion history


--------------------------------------------------------------------------------
Deadline monitoring statistics info (Node: 0/4/CPU0)
--------------------------------------------------------------------------------
 client                   SnapShotTimestamp                Frequency
 (name)                   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------------------------ -------------------  ----------  ------------
 wdsysmon                 10/22/2007 14:25:38  449         29
 wdsysmon                 10/22/2007 14:40:38  450         30
 wdsysmon                 10/22/2007 14:55:38  449         29
 wdsysmon                 10/22/2007 15:10:37  450         30
 wdsysmon                 10/22/2007 15:25:37  449         29
 wdsysmon                 10/22/2007 15:40:37  450         30
 wdsysmon                 10/22/2007 15:55:37  449         29
 wdsysmon                 10/22/2007 16:10:37  450         30
 wdsysmon                 10/22/2007 16:25:37  449         29
 wdsysmon                 10/22/2007 16:40:37  450         30
 wdsysmon                 10/22/2007 16:55:37  449         29
 wdsysmon                 10/22/2007 17:10:37  450         30
 wdsysmon                 10/22/2007 17:25:37  449         29
 wdsysmon                 10/22/2007 17:40:37  450         30
 wdsysmon                 10/22/2007 17:55:37  449         29
 wdsysmon                 10/22/2007 18:10:37  450         30
 wdsysmon                 10/22/2007 18:25:37  449         29
 wdsysmon                 10/22/2007 18:40:37  450         30
 wdsysmon                 10/22/2007 18:55:36  449         29
 wdsysmon                 10/22/2007 19:10:36  450         30


--------------------------------------------------------------------------------
Ticker statistics info (Node: 0/2/CPU0)
--------------------------------------------------------------------------------
 Period        SnapShotTimestamp                Frequency
 (min)  CPU#   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------ ------ -------------------  ----------  ------------
 15     cpu:0  10/22/2007 14:25:41  4454        296
 15     cpu:0  10/22/2007 14:40:41  4455        297
 15     cpu:0  10/22/2007 14:55:41  4454        296
 15     cpu:0  10/22/2007 15:10:41  4455        297
 15     cpu:0  10/22/2007 15:25:41  4455        297
```

```
 15      cpu:0  10/22/2007 15:40:41  4454         296
 15      cpu:0  10/22/2007 15:55:41  4455         297
 15      cpu:0  10/22/2007 16:10:41  4454         296
 15      cpu:0  10/22/2007 16:25:41  4455         297
 15      cpu:0  10/22/2007 16:40:41  4454         296
 15      cpu:0  10/22/2007 16:55:40  4455         297
 15      cpu:0  10/22/2007 17:10:40  4455         297
 15      cpu:0  10/22/2007 17:25:40  4455         297
 15      cpu:0  10/22/2007 17:40:40  4454         296
 15      cpu:0  10/22/2007 17:55:40  4455         297
 15      cpu:0  10/22/2007 18:10:40  4454         296
 15      cpu:0  10/22/2007 18:25:40  4455         297
 15      cpu:0  10/22/2007 18:40:40  4454         296
 15      cpu:0  10/22/2007 18:55:40  4455         297
 15      cpu:0  10/22/2007 19:10:40  4455         297


------------------------------------------------------------------------------
Watcher statistics info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 Period SnapShotTimestamp                  Frequency
 (min)  MM/DD/YYYY hh:mm:ss  watch count  (count/min)
 ------ -------------------  -----------  ------------
 15     10/22/2007 14:25:41  1495         99
 15     10/22/2007 14:40:41  1495         99
 15     10/22/2007 14:55:41  1495         99
 15     10/22/2007 15:10:41  1495         99
 15     10/22/2007 15:25:41  1495         99
 15     10/22/2007 15:40:41  1495         99
 15     10/22/2007 15:55:41  1495         99
 15     10/22/2007 16:10:41  1495         99
 15     10/22/2007 16:25:41  1495         99
 15     10/22/2007 16:40:41  1496         99
 15     10/22/2007 16:55:40  1495         99
 15     10/22/2007 17:10:40  1495         99
 15     10/22/2007 17:25:40  1495         99
 15     10/22/2007 17:40:40  1495         99
 15     10/22/2007 17:55:40  1495         99
 15     10/22/2007 18:10:40  1495         99
 15     10/22/2007 18:25:40  1495         99
 15     10/22/2007 18:40:40  1495         99
 15     10/22/2007 18:55:40  1495         99
 15     10/22/2007 19:10:40  1495         99


------------------------------------------------------------------------------
CPU congestion history (Node: 0/2/CPU0)
------------------------------------------------------------------------------

 No congestion history


------------------------------------------------------------------------------
Deadline monitoring statistics info (Node: 0/2/CPU0)
------------------------------------------------------------------------------
 client                  SnapShotTimestamp                Frequency
 (name)                  MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ----------------------- -------------------  ----------  ------------
 wdsysmon                10/22/2007 14:25:41  449         29
 wdsysmon                10/22/2007 14:40:41  450         30
 wdsysmon                10/22/2007 14:55:41  449         29
 wdsysmon                10/22/2007 15:10:41  450         30
 wdsysmon                10/22/2007 15:25:41  449         29
 wdsysmon                10/22/2007 15:40:41  450         30
 wdsysmon                10/22/2007 15:55:41  449         29
 wdsysmon                10/22/2007 16:10:41  450         30
 wdsysmon                10/22/2007 16:25:41  449         29
 wdsysmon                10/22/2007 16:40:41  450         30
 wdsysmon                10/22/2007 16:55:40  449         29
 wdsysmon                10/22/2007 17:10:40  450         30
 wdsysmon                10/22/2007 17:25:40  449         29
 wdsysmon                10/22/2007 17:40:40  450         30
 wdsysmon                10/22/2007 17:55:40  449         29
```

```
 wdsysmon                10/22/2007 18:10:40  450         30
 wdsysmon                10/22/2007 18:25:40  449         29
 wdsysmon                10/22/2007 18:40:40  450         30
 wdsysmon                10/22/2007 18:55:40  449         29
 wdsysmon                10/22/2007 19:10:40  450         30


------------------------------------------------------------------------------
Ticker statistics info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 Period        SnapShotTimestamp                Frequency
 (min)  CPU#   MM/DD/YYYY hh:mm:ss  tick count  (count/min)
 ------ ------ ------------------  ----------  ------------
 15     cpu:0  10/22/2007 14:33:53  4456        297
 15     cpu:0  10/22/2007 14:48:53  4455        297
 15     cpu:0  10/22/2007 15:03:53  4456        297
 15     cpu:0  10/22/2007 15:18:53  4455        297
 15     cpu:0  10/22/2007 15:33:53  4455        297
 15     cpu:0  10/22/2007 15:48:53  4456        297
 15     cpu:0  10/22/2007 16:03:53  4455        297
 15     cpu:0  10/22/2007 16:18:52  4456        297
 15     cpu:0  10/22/2007 16:33:52  4455        297
 15     cpu:0  10/22/2007 16:48:52  4456        297
 15     cpu:0  10/22/2007 17:03:52  4455        297
 15     cpu:0  10/22/2007 17:18:52  4456        297
 15     cpu:0  10/22/2007 17:33:52  4455        297
 15     cpu:0  10/22/2007 17:48:52  4455        297
 15     cpu:0  10/22/2007 18:03:52  4456        297
 15     cpu:0  10/22/2007 18:18:52  4455        297
 15     cpu:0  10/22/2007 18:33:52  4456        297
 15     cpu:0  10/22/2007 18:48:52  4455        297
 15     cpu:0  10/22/2007 19:03:52  4456        297
 15     cpu:0  10/22/2007 19:18:52  4455        297


------------------------------------------------------------------------------
Watcher statistics info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
 Period SnapShotTimestamp                 Frequency
 (min)  MM/DD/YYYY hh:mm:ss  watch count  (count/min)
 ------ ------------------  -----------  ------------
 15     10/22/2007 14:33:53  1495         99
 15     10/22/2007 14:48:53  1495         99
 15     10/22/2007 15:03:53  1495         99
 15     10/22/2007 15:18:53  1495         99
 15     10/22/2007 15:33:53  1495         99
 15     10/22/2007 15:48:53  1495         99
 15     10/22/2007 16:03:53  1495         99
 15     10/22/2007 16:18:52  1495         99
 15     10/22/2007 16:33:52  1496         99
 15     10/22/2007 16:48:52  1495         99
 15     10/22/2007 17:03:52  1495         99
 15     10/22/2007 17:18:52  1495         99
 15     10/22/2007 17:33:52  1495         99
 15     10/22/2007 17:48:52  1495         99
 15     10/22/2007 18:03:52  1495         99
 15     10/22/2007 18:18:52  1495         99
 15     10/22/2007 18:33:52  1495         99
 15     10/22/2007 18:48:52  1495         99
 15     10/22/2007 19:03:52  1495         99
 15     10/22/2007 19:18:52  1495         99


------------------------------------------------------------------------------
CPU congestion history (Node: 0/1/CPU0)
------------------------------------------------------------------------------

 No congestion history


------------------------------------------------------------------------------
Deadline monitoring statistics info (Node: 0/1/CPU0)
------------------------------------------------------------------------------
```

```
client                  SnapShotTimestamp               Frequency
(name)                  MM/DD/YYYY hh:mm:ss  tick count  (count/min)
----------------------- -------------------  ----------  ------------
wdsysmon                10/22/2007 14:33:53  449         29
wdsysmon                10/22/2007 14:48:53  450         30
wdsysmon                10/22/2007 15:03:53  449         29
wdsysmon                10/22/2007 15:18:53  450         30
wdsysmon                10/22/2007 15:33:53  449         29
wdsysmon                10/22/2007 15:48:53  450         30
wdsysmon                10/22/2007 16:03:53  450         30
wdsysmon                10/22/2007 16:18:52  449         29
wdsysmon                10/22/2007 16:33:52  450         30
wdsysmon                10/22/2007 16:48:52  449         29
wdsysmon                10/22/2007 17:03:52  450         30
wdsysmon                10/22/2007 17:18:52  449         29
wdsysmon                10/22/2007 17:33:52  450         30
wdsysmon                10/22/2007 17:48:52  449         29
wdsysmon                10/22/2007 18:03:52  450         30
wdsysmon                10/22/2007 18:18:52  450         30
wdsysmon                10/22/2007 18:33:52  449         29
wdsysmon                10/22/2007 18:48:52  450         30
wdsysmon                10/22/2007 19:03:52  449         29
wdsysmon                10/22/2007 19:18:52  450         30
```

This table describes the significant fields shown in the display.

Table 23: show critmon statistics Field Descriptions

Field	Description
Ticker statistics info	Ticker thread statistics information that is used for the node.
Period	Statistics sampling period.
CPU	CPU number.
SnapShotTimestamp	Timestamp that the statistics is saved.
tick count	Ticker counter for the sampling period
Frequency	Frequency for ticker or watcher punch count.
Watcher statistics info	Watcher thread statistics information that is used for the node.
watch count	Watcher count that is used for the sampling period.
CPU congestion history	History of CPU congestion.
Deadline monitoring statistics info	Deadline monitoring statistics information that is used for the node.
client	Name of deadline monitoring client.

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon trace all

To display information about all traces for a critical monitor, use the **show critmon trace all** command in XR EXEC mode.

show critmon trace all [**file** *filename* **original**] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [verbose] [usec][wide][wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
original	Specifies the original location of the file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays trace information for a specific number of entries
entries	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 4294967295.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics in the command output.
tailf	(Optional) Displays the new traces as they are added in the command output.
unique	(Optional) Displays the unique entries with counts in the command output.
verbose	(Optional) Displays the information for internal debugging in the command output.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, thread-id.
wrapping	(Optional) Displays the wrapping entries in the command output.

location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following sample output is from the **show critmon trace all** command:

```
RP/0/RP0/CPU0:router# show critmon trace all hexdump

1 wrapping entries (768 possible, 0 filtered, 1 total)
Oct 11 03:18:11.584 wd-critical-mon/lib/info 0/5/CPU0 t10 tp0x00000302000000a0

Oct 11 03:18:11.584 wd-critical-mon/lib/info 0/5/CPU0 t10 critmon_deadline_regin
```

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.

Command	Description
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon trace error

To display information about error traces for a critical monitor, use the **show critmon trace error** command in XR EXEC mode.

show critmon trace error [**file** *filename* **original**] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [verbose] [usec][wide][wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
original	Specifies the original location of the file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays the last numbered entries.
entries	Number of entries. The range is from 1 to 4294967295.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics.
tailf	(Optional) Displays the new traces as they are added.
unique	(Optional) Displays the unique entries with counts.
verbose	(Optional) Displays the information for internal debugging.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, thread-id.
wrapping	(Optional) Displays the wrapping entries in the command output.
location	(Optional) Specifies a node.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows how to use the **show critmon trace error** command:

```
RP/0/RP0/CPU0:router# show critmon trace error
```

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon trace info

To display trace data for an information type for the critical monitor, use the **show critmon trace info** command in XR EXEC mode.

show critmon trace info [**file** *filename* **original**] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [verbose] [usec][wide][wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
original	Specifies the original location of the file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays the last numbered entries.
entries	Number of entries. The range is from 1 to 4294967295.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics.
tailf	(Optional) Displays the new traces as they are added.
unique	(Optional) Displays the unique entries with counts.
verbose	(Optional) Displays the information for internal debugging.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following shows how to use the **show critmon trace info** command:

```
RP/0/RP0/CPU0:router# show critmon trace info
```

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon trace lib-error

To display information about the trace data for the library error for the critical monitor, use the **show critmon trace lib-error** command in XR EXEC mode.

show critmon trace lib-error [**file** *filename* **original**] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [verbose] [usec][wide][wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
original	Specifies the original location of the file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays the last numbered entries.
entries	Number of entries. The range is from 1 to 4294967295.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics.
tailf	(Optional) Displays the new traces as they are added.
unique	(Optional) Displays the unique entries with counts.
verbose	(Optional) Displays the information for internal debugging.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
wrapping	(Optional) Displays the wrapping entries in the command output.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following shows how to use the **show critmon trace lib-error** command:

```
RP/0/RP0/CPU0:router# show critmon trace lib-error
```

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-info, on page 228	Displays trace data for the library information for the critical monitor.

show critmon trace lib-info

To display trace data for the library information for the critical monitor, use the **show critmon trace lib-info** command in XR EXEC mode.

show critmon trace lib-info [**file** *filename* **original**] **[hexdump]** [**last** *entries*] **[reverse] [stats] [tailf] [unique] [verbose] [usec][wide][wrapping]** [**location** {*node-id*| **all**}]

Syntax Description

file	(Optional) Displays a specific file.
filename	Name of a specific file.
original	Specifies the original location of the file.
hexdump	(Optional) Displays traces in hexadecimal format.
last	(Optional) Displays the last numbered entries.
entries	Number of entries. The range is from 1 to 4294967295.
reverse	(Optional) Displays the latest traces first.
stats	(Optional) Displays the statistics.
tailf	(Optional) Displays the new traces as they are added.
unique	(Optional) Displays the unique entries with counts.
verbose	(Optional) Displays the information for internal debugging.
usec	(Optional) Displays timestamp w/usec detail.
wide	(Optional) Do not display buffer name, node name, and thread-id.
wrapping	(Optional) Displays the wrapping entries in the command output.

location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.
location all	(Optional) Specifies all locations.

Command Default

No default behavior or values

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
cisco-support	read

Examples

The following example shows how to use the **show critmon trace lib-info** command:

```
RP/0/RP0/CPU0:router# show critmon trace lib-info
```

Related Commands

Command	Description
show critmon context, on page 204	Displays information about the context for the wd-critical-mon process.
show critmon deadline, on page 208	Displays information about deadline monitoring.
show critmon statistics, on page 211	Displays information about the critical monitor statistics.
show critmon trace all, on page 219	Displays information about all traces for a critical monitor.
show critmon trace error, on page 222	Displays information about error traces for a critical monitor.

Command	Description
show critmon trace info, on page 224	Displays trace data for an information type for the critical monitor.
show critmon trace lib-error, on page 226	Displays information about the trace data for the library error for the critical monitor.

show reboot history

To display reboot information for the last graceful reboot, use the show reboot history command in XR EXEC mode.

show reboot history [reverse] location *node-id*

Syntax Description

reverse	(Optional) Displays the reverse in chronological order.
location	Specifies a node.
node-id	Node ID. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

The reboot history shows all reboot causes that is stored for the previous node resets.

Task ID

Task ID	Operations
system	read

Examples

The following sample output is from the **show reboot history** command:

```
RP/0/RP0/CPU0:router# show reboot history location 0/1/CPU0

No  Time                        Cause Code  Reason
--------------------------------------------------------------------------------
01  Mon Jul 30 19:27:05 2007  0x2000004f  Cause: MBI-HELLO reloading node on rec
                                          eiving reload notification
                                            Process: mbi-hello

                                                 Traceback: fc15b1a0 fc15b290 482
                                          0020c fc1d5fb0 0 0
02  Thu Aug 16 16:32:35 2007  0x21000106  Cause: All fabric links down on Fabric
```

```
                                          q
                                            Process: fabricq_mgr

                                                 Traceback: fc15b1a0 fc15b290 fc9
                                          9ded4 fc99ae00 fc99affc fc99affc
03  Thu Aug 16 17:05:20 2007  0x2000004f  Cause: MBI-HELLO reloading node on rec
                                          eiving reload notification
                                            Process: mbi-hello

                                                 Traceback: fc15b1a0 fc15b290 482
                                          0020c fc1d5fb0 0 0
04  Mon Sep 10 21:01:34 2007  0x21000106  Cause: All fabric links down on Fabric
                                          q
                                            Process: fabricq_mgr

                                                 Traceback: fc15b1a0 fc15b290 fc9
                                          a3f00 fc9a0e10 fc9a100c fc9a100c
05  Mon Sep 10 21:36:10 2007  0x2000004f  Cause: MBI-HELLO reloading node on rec
                                          eiving reload notification
                                            Process: mbi-hello

                                                 Traceback: fc1601a0 fc160290 482
                                          0020c fc1dcfb0 0 0
06  Wed Oct 10 18:28:53 2007  0x21000106  Cause: All fabric links down on Fabric
                                          q
                                            Process: fabricq_mgr

                                                 Traceback: fc1601a0 fc160290 fc9
                                          d9f48 fc9d6e58 fc9d7054 fc9d7054
07  Wed Oct 10 19:04:02 2007  0x2000004f  Cause: MBI-HELLO reloading node on rec
                                          eiving reload notification
                                            Process: mbi-hello

                                                 Traceback: fc160c38 fc160d34 482
                                          0020c fc1ddfb0 0 0
08  Wed Oct 10 20:19:39 2007  0x0000004f  Cause: HBAgent reloading node on recei
                                          ving reload notification
                                            Process: hbagent

                                                 Traceback: fc160c38 fc160d34 482
                                          00228 fc1ddfb0 0 0
09  Wed Oct 10 20:45:53 2007  0x0000004f  Cause: HBAgent reloading node on recei
                                          ving reload notification
                                            Process: hbagent

                                                 Traceback: fc160c38 fc160d34 482
                                          00228 fc1ddfb0 0 0
10  Thu Oct 11 19:15:55 2007  0x0000004f  Cause: HBAgent reloading node on recei
                                          ving reload notification
                                            Process: hbagent

                                                 Traceback: fc160c38 fc160d34 482
                                          00228 fc1ddfb0 0 0
```

Related Commands

Command	Description
show reboot first	Displays reboot information for a node first.
show reboot graceful	Displays reboot information for the last graceful reboot for a node.
show reboot last	Displays the latest crash information.
show reboot pcds	Displays Persistent Critical Data Store critical information for the last ungraceful reboot.

show watchdog

To display information about the memory state or threshold memory, use the **show watchdog** command in XR EXEC mode.

show watchdog [**memory-state**| **overload state location** *node-id*| **trace**] [**threshold memory** {**configured**| **defaults**} **location** *node-id*] [**location** *node-id*]

Syntax Description

memory-state	(Optional) Displays the memory state.
threshold memory	(Optional) Displays the memory thresholds.
configured	Displays the configured memory thresholds.
defaults	Displays the default system memory thresholds.
location *node-id*	(Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation. The **location** *node-id* keyword and argument must be specified if the **threshold memory** keywords are selected.
overload state	(Optional) Displays the overload control state information.
trace	(Optional) Displays the watchdog trace data.

Command Default

The command output is not compressed.

Command Modes

XR EXEC

Command History

Release	Modification
Release 5.0.0	This command was introduced.

Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

Use the **show watchdog** command to display information about the memory states or thresholds for a specified location. You can display the default or configured memory thresholds.

Task ID

Task ID	Operations
basic-services	read

Examples

The following sample output is from the **show watchdog** command:

```
RP/0/RP0/CPU0:router# show watchdog memory-state

Wed Nov  4 00:18:59.575 UTC
Memory information:
    Physical Memory: 4096     MB
    Free Memory:     2623.671 MB
    Memory State:         Normal
```

Related Commands

Command	Description
watchdog threshold memory	Configures the value of memory available for each alarm threshold.

INDEX

C

S