Internal Ethernet Control Network Commands

This module provides command line interface (CLI) commands for configuring internal ethernet control on your router.

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

clear controller backplane ethernet clients

To clear the aggregate client statistics of traffic sent and received over the control Ethernet, use the **clear controller backplane ethernet clients** command in administration EXEC mode.

clear controller backplane ethernet clients {**client-id statistics** | **all statistics**} **location** *node-id*

Syntax Description		
client-id	Client ID. Range is from 1 through 33.	
statistics	Clears a list of client statistics for the specified client ID.	
all	Clears a list of all client applications and their IDs.	
location *node-id*	Clears the node or the controller information.	
	Note Use the **show platform** command to see a list of all nodes currently in the system.	

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **clear controller backplane ethernet location statistics** command.

Usage Guidelines Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
system	execute

Examples The following example shows how to clear client statistics for client ID 1 on the node at 0/1/1:

```
RP/0/RP0/CPU0:router(admin)# clear controller backplane ethernet clients 1 statistics
location 0/1/1
```

The following example shows how to clear all client statistics on the node at 0/1/1:

```
RP/0/RP0/CPU0:router(admin)# clear controller backplane ethernet clients all statistics
location 0/1/1
```

Related Commands	**Command**	**Description**
	show controllers backplane ethernet clients, on page 7	Displays information about client applications in a particular location.
	show controllers backplane ethernet detail, on page 12	Displays detailed information about the backplane interfaces in a particular location.

clear controller backplane ethernet statistics

To clear the aggregate statistics of traffic sent and received over the control Ethernet, use the **clear controller backplane ethernet statistics** command in administration EXEC mode.

clear controller backplane ethernet statistics location *node-id*

Syntax Description	**location** *node-id*	Clears the node of statistics.
		Note Use the **show platform** command to see a list of all nodes currently in the system.

Command Default   No default behavior or values

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **clear controller backplane ethernet location statistics** command.

Usage Guidelines   No specific guidelines impact the use of this command.

Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
system	execute

Examples   The following example shows how to clear all statistics on the node at 0/1/1:

```
RP/0/RP0/CPU0:router(admin)# clear controller backplane ethernet statistics location 0/1/1
```

Related Commands

Command	Description
show controllers backplane ethernet brief, on page 5	Displays brief information about backplane Ethernet interfaces in a particular location.

show controllers backplane ethernet brief

To display brief information about backplane Ethernet interfaces in a particular location, use the **show controllers backplane ethernet brief** command in administration EXEC mode.

show controllers backplane ethernet brief location *node-id*

Syntax Description		
location *node-id*	Displays brief backplane Ethernet information for a specified location.
	Note	Use the **show platform** command to see a list of all nodes currently in the system.

Command Default   No default behavior or values

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **show controllers backplane ethernet local brief** and **show controllers backplane ethernet location brief** commands.

Usage Guidelines   Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows the output from the **show controllers backplane ethernet brief** command:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet brief location 0/1/0

FastEthernet0_0_CPU0 (local) is up, MTU 1514 bytes
    57569 packets input, 5999749 bytes
    36963 packets output, 4105673 bytes
```

Table 1: show controllers backplane ethernet brief Field Descriptions

Field	Description
MTU	Maximum packet size, in bytes, that a particular interface can handle.
packets input	Total number of packets received.

Field	Description
packets output	Total number of packets transmitted.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets transmitted by the system.

Related Commands

Command	Description
show controllers backplane ethernet clients, on page 7	Displays information about client applications in a particular location.
show controllers backplane ethernet detail, on page 12	Displays detailed information about the backplane interfaces in a particular location.
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.

show controllers backplane ethernet clients

To display information about client applications in a particular location, use the **show controllers backplane ethernet clients** command in administration EXEC mode.

show controllers backplane ethernet clients {*client-id* **statistics** | **all**} **location** *node-id*

Syntax Description

client-id	Client ID. Range is from 1 through 33.
statistics	Displays a list of client statistics for the specified client ID.
all	Displays a list of all client applications and their IDs.
location *node-id*	Displays a list of all client applications and their IDs for a specified location.

> **Note** Use the **show platform** command to see a list of all nodes currently in the system.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **show controllers backplane ethernet local clients** and **show controllers backplane ethernet location clients** commands.

Usage Guidelines

Enter the **location** *node-id* argument in the *rack/slot/module* notation.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows the output from the **show controllers backplane ethernet clients** command, which displays detailed statistics for a specified backplane client application:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet clients 2 statistics
location 0/rp0/cpu0

  Client GSP, ES Client Id 2, PID 127057 running on FastEthernet0_RP0_CPU0
    LWM calls 1 open, 0 close, 0 close callback, 0 unblocks
    1610 packets input, 531492 bytes
    1601 packets delivered,518082 bytes
    0 packets discarded (0 bytes) in garbage collection
    0 (0 bytes) unicast packets filtered
    9 (3750 bytes) multicast packets filtered
    0 (0 bytes) buffer mgmt policy discards
```

```
      0 (0 bytes) locking error discards
      0 packets waiting for client

      1846 packets output, 905259 bytes, 0 could not be transmitted
      Packets output at high priority : 251
      Packets output at med  priority : 0
      Packets output at low  priority : 1595
      Out-of-packet write rejects (high) : 0
      Out-of-packet write rejects (med ) : 0
      Out-of-packet write rejects (low ) : 0
      DMA write rejects (high) : 0
      DMA write rejects (med ) : 0
      DMA write rejects (low ) : 0

      Async calls open 1, close 0 (Number of async open calls by the client with eth_server)

      Rx pkts at high level : produced 246, lipc 0, depth 0, drops 0 (Rx packets produced,
consumed, queue depth, drops at various levels)
      Rx pkts at high level : consumed 246, fails 0, wakeups 240
      Rx pkts at med  level : produced 0, lipc 0, depth 0, drops 0
      Rx pkts at med  level : consumed 0, fails 0, wakeups 0
      Rx pkts at low  level : produced 1355, lipc 0, depth 0, drops 0
      Rx pkts at low  level : consumed 1355, fails 0, wakeups 1032

      Rx mem score 0, alloc fails 0, free fails 0     (Rx mem score for this client, alloc
free fails)
      Rx mem threshold exceeded rejects 0, mutex lock fails 0 (Rx mem drops due to non-avail
 of buffers, mutex lock fails)

      Tx pkts at high level : produced 251, depth 0, fails 0, drops 0 (Tx packets produced,
consumed, queue depth, drops at various levels)
      Tx pkts at high level : consumed 251, drops 0, wakeups 251
      Tx pkts at med  level : produced 0, depth 0, fails 0, drops 0
      Tx pkts at med  level : consumed 0, drops 0, wakeups 0
      Tx pkts at low  level : produced 1595, depth 0, fails 0, drops 0
      Tx pkts at low  level : consumed 1595, drops 0, wakeups 1110

     Tx mem score 0, server held 0, alloc fails 0, free fails 0 (Tx mem score for this client,
 alloc free fails)
      Tx mem threshold exceeded rejects 0, mutex lock fails 0
```

Table 2: show controllers backplane ethernet clients Field Descriptions (For a Specified Client)

Field	Description
Client GSP	Name of the Ethernet server client.
ES Client Id *number*	Numerical identifier of the Ethernet server client.
PID *number* running on Fast Ethernet *location*	Process identifier of the Ethernet server client.
LWM calls	Number of corresponding lightweight messaging (LWM) calls performed by the client.
packets input, bytes	Total packet bytes received by the Ethernet server for this client.
packets delivered, bytes	Total packet bytes delivered by the Ethernet server to the client.

Field	Description
packets discarded (bytes) in garbage collection	Number of packets and packet bytes discarded because the client did not pick up the packet in 10 seconds.
(bytes) unicast packets filtered	Number of unicast packets and unicast packet bytes not destined for this client.
(bytes) multicast packets filtered	Number of multicast packets and multicast packet bytes not destined for this client.
(bytes) buffer mgmt policy discards	Number of packets and packet bytes dropped because the client used too many Ethernet server buffers.
(bytes) locking error discards	Number of packets and packet bytes discarded because of locking error discards.
packets waiting for client	Number of packets waiting to be picked up by the client.
packet output, bytes	Number of packets and packet bytes output by the Ethernet server for this client.
could not be transmitted	Number of packets that could not be transmitted by the Ethernet server for this client.
Packets output at high, medium, low priority	Number of packets output at high, medium, and low priorities.
Out-of-packet write rejects (high, medium, low)	Number of packet write failures at high, medium, and low priorities.
DMA write rejects (high, medium, low)	Number of packet write failures by the driver at high, medium, and low priorities.
Async calls open, close	Number of asynchronous calls performed by the client.
Rx pkts at high, med, low levels (produced, consumed, queue depth, drops at various levels)	Number of packets received by the Ethernet server and produced onto the queueing and dispatching (QAD) queue for the client. Also, number of packets consumed by the client, depth off the queue, and dropped.
Rx pkts at high, med, low levels (consumed, fails, wakeups)	Number of packets consumed by the client from the QAD queue. Also, number of packets that failed and number of wakeups.
Rx mem score	Number of buffers currently held by the client on the receive side.
alloc fails	Number of receive allocation failures for the client.
free fails	Number of free failures for the client.
Rx mem threshold exceeded rejects	Number of packets dropped because the client exceeded its threshold.
mutex lock fails	Number of mutex lock failures on the receive side.

Field	Description
Tx pkts at high, med, low levels (produced, depth, fails, drops)	Number of packets enqueued onto the QAD queue by the client. Also, the depth off the queue and number of packets that failed and were dropped.
Tx pkts at high, med, low levels (consumed, drops, wakeups)	Number of packets dequeued from the QAD queue by the Ethernet server. Also, number of packets that were dropped and number of wakeups.
Tx mem score	Number of buffers currently held by the client on the transmit side.
server held	Number of packets given by the client and not yet transmitted by the Ethernet server.
alloc fails	Number of allocation failures for the client on the transmit side.
free fails	Number of free failures on the transmit side.
Tx mem threshold exceeded rejects	Number of transmit packet failures because the client exceeded its quota.
mutex lock fails	Number of mutex lock failures on the transmit side.

The following example shows the output from the **show controllers backplane ethernet clients** command, which displays a summary of statistics for all of the backplane client applications:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet clients all location
0/0/CPU0


     Intf          Client ethernet       Client            Description
     Name             server id        Process Id
------------------------------------------------------------------------
 FE0_0_CPU0               1              12307          QNX network manager
                         2              28726             Group services
                         3                  0          Reserved for Attach
                         4                  0           Plugin controller
                         5                  0             Designated SC
                         6                  0              HFR H/W diags
                         7                  0            IP packet handler
                         8              16415          Redundancy controller
                         9                  0           HFR Virtual console
                        10              12312          HFR Virtual terminal
                        11              12305          Control ethernet echo
                        12                  0          Control eth echo reply
                        13                  0      Card Configuration Protocol
                        14                  0            Reserved for Attach
                        15                  0            Chassis controller
                        16                  0             Forwarding driver
                        17              16414                  MBI hello
                        18                  0          MBI Boot Server Source
                        19                  0               HSR ES client
                        20                  0             Test application 1
                        21                  0             Test application 2
                        22                  0          Test client out-of-band
```

Table 3: show controllers backplane ethernet clients Field Descriptions (For All Clients)

Field	Description
Intf Name	Identifies the Ethernet interface.
Client ethernet server id	Identifies the Ethernet server for the specified interface.
Client process id	Identifies the client process running on the specified interface.
Description	Describes the backplane client application.

Related Commands

Command	Description
show controllers backplane ethernet brief, on page 5	Displays brief information about backplane Ethernet interfaces in a particular location.
show controllers backplane ethernet detail, on page 12	Displays detailed information about the backplane interfaces in a particular location.
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.

show controllers backplane ethernet detail

To display detailed information about the backplane interfaces in a particular location, use the **show controllers backplane ethernet detail** command in administration EXEC mode.

show controllers backplane ethernet detail location *node-id*

Syntax Description		
location *node-id*	Displays detailed information about backplane interfaces for a specified location.	
	Note	Use the **show platform** command to see a list of all nodes currently in the system.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **show controllers backplane ethernet local detail** and **show controllers backplane ethernet location detail** commands.

Usage Guidelines Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows the output from the **show controllers backplane ethernet detail** command:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet detail location 0/rp0/cpu0

FastEthernet0_RP0_CPU0 is up
  Hardware is 10/100 Ethernet, H/W address is 5246.4800.0201
  Internet address is 10.0.2.1
  MTU 1514 bytes
  Encapsulation HFRIES (Platform Internal Ethernet Server)
  Mode : Full Duplex,  Rate : 100Mb/s
    11576 packets input, 809064 bytes, 0 total input drops
    11346 driver inputs,11175 driver callbacks
    0 packets discarded (0 bytes) in garbage collection
    12 packets discarded (5784 bytes) in recv processing
    0 incomplete frames discarded
    0 packets discarded due to bad headers
    0 packets waiting for clients
    0 packets waiting on Rx
    Packets waiting at high priority : 0
```

```
    Packets waiting at med  priority : 0
    Packets waiting at low  priority : 0
    Received 3 broadcast packets, 54 multicast packets
    Input errors: 0 CRC, 0 overrun, 0 alignment, 0 length, 0 collision
    12105 packets output, 17021692 bytes, 0 total output drops
    Output 0 broadcast packets, 555 multicast packets
    Output errors: 0 underruns, 0 aborts, 0 loss of carrier
    Write rejects : 0
    Rx mem score 1000, alloc fails 0, free fails 0, retrieved buffers 0 (memory score on
Rx side, 1000 is expected, alloc, free fails on Rx side)
    Rx mem threshold exceeded rejects 0, mutex lock fails 0 (Memory threshold exceeded due
 to lack of buffers on Rx)
    Tx mem score 1, server held 0, alloc fails 0, free fails 0 (memory score on Tx side)
    Tx mem threshold exceeded rejects 0, mutex lock fails 0, retrieved buffers 0
    Tx quota for         high : 100  med : 100  low : 799  (Buffer quota on tx side,
expected is  arnd 100, 100, 800)
    Tx waits for         high :   0  med :   0  low :   0  (tx stalls (lwm+qad) due to
 non-avail of buffers)
    Tx (QAD) waits for   high :   0  med :   0  low :   0  (tx stalls (qad only))
    Tx (QAD) wakeups for high : 146  med :   0  low :  22  (tx wakeups)
```

Table 4: show controllers backplane ethernet detail Field Descriptions

Field	Description
FastEthernet*node* is *status*	Status of the node, which can be up or down.
Hardware	Hardware type, followed by the hardware address.
Internet address	IP address of the interface.
MTU	Maximum packet size, in bytes, that a particular interface can handle.
Encapsulation	Encapsulation method assigned to the interface.
Mode	Operating mode of the interface, followed by transmission data.
packets input	Total number of packets received.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets received by the system.
total input drops	Total number of packets dropped from the input queue because the queue was full.
driver inputs	Number of packets input inside the software driver.
driver callbacks	Number of callback invocations by the software driver.
packets discarded (bytes) in garbage collection	Number of packets and bytes discarded.
packets discarded (bytes) in recv processing	Number of packets and bytes discarded.
incomplete frames discarded	Number of incomplete frames dropped in the receive direction.

Field	Description
packets discarded due to bad headers	Number of packets dropped because of bad headers.
packets waiting for clients	Number of packets to be picked up by the client.
packets waiting on Rx	Number of packets to be processed by the Ethernet server.
Packets waiting at high/med/low priority	Number of high-, medium-, and low-priority packets to be processed by the Ethernet server.
Received broadcast packets, multicast packets	Total number of broadcast and multicast packets received by the interface.
Input errors	Number of errors received by the interface. Input errors occur when incoming cells are dropped or corrupted. The possible input errors are as follows: • CRC—Number of times that the checksum calculated from the data received did not match the checksum from the transmitted data. • overrun—Number of times that the receiver hardware was incapable of handing received data to a hardware buffer because the input rate exceeded the receiver's capability to handle the data. • alignment—Number of nonoctets received. • length—Number of times the interface prevented the ASIC from overrunning a maximum transmission unit (MTU) size. • collision—Number of messages retransmitted because of an Ethernet collision.
packets output	Total number of messages transmitted by the system.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets transmitted by the system.
total output drops	Total number of packets dropped from the output queue because the queue was full.
Output broadcast packets, multicast packets	Total number of broadcast and multicast packets transmitted by the interface.
Output errors	Number of errors transmitted on the interface. Output errors occur when outgoing cells are dropped or corrupted. The possible types output errors are as follows: • underruns—Number of times that the far-end transmitter has been running faster than the near-end receiver can handle. • aborts—Number of illegal sequences of one bits on the interface. • loss of carrier—Number of times the interface was reset because the carrier detect line of that interface was up, but the line protocol was down.
Write rejects	Number of software driver errors on the transmit side.

Field	Description
Rx mem score	Number of overall outstanding Ethernet server receive buffers.
alloc fails	Number of allocation failures in the receive direction.
free fails	Number of free failures in the receive direction.
retrieved buffers	Number of receive buffers retrieved.
Rx mem threshold exceeded rejects	Number of receive buffer rejects because of a threshold overrun.
mutex lock fails	Number of mutex lock failures in the receive direction.
Tx mem score	Number of outstanding transmit buffers for all clients.
server held	Number of buffers, with packets not yet transmitted, held by the Ethernet server.
alloc fails	Number of allocation failures in the transmit direction.
free fails	Number of free failures in the transmit direction.
Tx mem threshold exceeded rejects	Number of transmit buffer rejects because of a threshold overrun.
mutex lock fails	Number of mutex lock failures in the transmit direction.
retrieved buffers	Number of transmit buffers retrieved.
Tx quota for high/med/low	Total number of buffers available for transmission on the ring.
Tx waits for high/med/low	Number of times the transmit thread had to wait because of a buffer quota shortage for LWM clients.
Tx (QAD) waits for high/med/low	Number of times queueing and dispatching (QAD) clients had to wait because of a quota shortage.
Tx (QAD) wakeups for high/med/low	Number of times the transmit thread was woken up.

Related Commands

Command	Description
show controllers backplane ethernet brief, on page 5	Displays brief information about backplane Ethernet interfaces in a particular location.
show controllers backplane ethernet clients, on page 7	Displays information about client applications in a particular location.
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.

show controllers backplane ethernet manageability bridge basic

To display basic information for a Control Ethernet (CE) bridge, use the **show controllers backplane ethernet manageability bridge** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge *bridge-name* **basic**

Syntax Description	*bridge-name*	Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation:

ControlEthernet *rack_slot_module_* [S0 | S1]

The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0.

> **Note**   To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.

Command Default   No default behavior or values

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines   An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module_* [S0 | S1]) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 | S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display basic information for a bridge named ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 basic

Bridge Base Information
------------------------------------------
Bridge Name      : ControlEthernet0_RP0_CPU0_S0
Bridge Address   : 00 11 93 ef e8 e2
Number of Ports  : 18
Bridge Type      : Transparent Only
------------------------------------------
```

Table 5: show controllers backplane ethernet manageability bridge basic Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module_*[S0 | S1] naming notation.
Bridge Address	Displays the MAC address of the bridge.
Number of Ports	Displays the number of ports controlled by the bridge.
Bridge Type	Indicates the type of bridging that is being performed. Valid values include the following: • Unknown • Transparent Only • Sourceroute Only • SRT

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.

show controllers backplane ethernet manageability bridge fdb-entry

To display the forwarding table entry for a Control Ethernet (CE) bridge port, use the **show controllers backplane ethernet manageability bridge fdb-entry** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge *bridge-name* **fdb-entry** *mac-address*

Syntax Description

bridge-name	Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation: ControlEthernet*rack_slot_module*_[S0 | S1] The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0. **Note** To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.
mac-address	Identifies a bridge port with the specified 48-bit MAC address. You must enter the address in the *H.H.H* format. **Note** To view the forwarding table of a CE bridge, which includes 48-bit MAC addresses, enter the **show controllers backplane ethernet manageability bridge forwarding** command

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module*_[S0 \| S1]) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 \| S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display the forwarding table entry for a bridge port with the MAC address of 5246.4800.0040:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 fdb-entry 5246.4800.0040

-----------------------------------------------------
Bridge Name       : ControlEthernet0_RP0_CPU0_S0
      Trasparent Bridging Forwarding Table
-----------------------------------------------------
Mac_Address      Ingress_Port    Status
-----------------------------------------------------
5246.4800.0040          12       Learned
```

Table 6: show controllers backplane ethernet manageability bridge fdb-entry Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module_*[S0	S1] naming notation.
MAC Address	Displays a unicast 48-bit MAC address for which the bridge has forwarding and/or filtering information.
Ingress Port	Displays the number of the port. A value of 0 indicates that the port number has not been learned, but that the bridge does have some forwarding/filtering information about this address.
Status	Displays the status of the port, which can be one of the following: • Other—None of the other values applies. • Invalid—The forwarding table entry is no longer valid (for example, it was learned and has since aged out), but has not yet been flushed from the table. • Learned—The port was learned and is being used. • Self—The MAC address of the port represents one of the addresses. • Mgmt—The MAC address of the port is also the value of an existing instance of dot1dStaticAddress.

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge forwarding, on page 21	Displays a forwarding database table for a CE bridge.

Command	Description
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.
show controllers backplane ethernet manageability bridge port, on page 26	Displays information for a CE bridge port.

show controllers backplane ethernet manageability bridge forwarding

To display a forwarding database table for a Control Ethernet (CE) bridge, use the **show controllers backplane ethernet manageability bridge forwarding** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge *bridge-name* **forwarding**

Syntax Description	*bridge-name*	Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation:
		ControlEthernet*rack_slot_module*_[S0 | S1]
		The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0.
		Note To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module*_[S0 \| S1]) is as follows:

- *rack*: Chassis number of the rack.
- *slot*: Physical slot number of the card.
- *module*: Processor module number is always CPU0.
- [S0 \| S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display forwarding database information a bridge named ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 forwarding

-------------------------------------------------------
Bridge Name      : ControlEthernet0_RP0_CPU0_S0
      Trasparent Bridging Forwarding Table
-------------------------------------------------------
Mac_Address      Ingress_Port    Status
-------------------------------------------------------
0000.0000.0000          0        Learned
0000.000f.ffff          0        Learned
0000.0102.0304          1        Learned
0249.4450.0000          0        Learned
0249.4450.0001          0        Learned
0249.4450.0002          0        Learned
5246.4800.0010          9        Learned
5246.4800.0011          9        Learned
5246.4800.0040         12        Learned
5246.4800.0041         12        Learned
5246.4800.0042         12        Learned
5246.4800.0060         14        Learned
5246.4800.0061         14        Learned
5246.4800.0201          0        Learned
5246.4800.0211          1        Learned
5246.4800.0800          2        Learned
5246.4800.0810          3        Learned
5246.4800.0820          4        Learned
5246.4800.0830          5        Learned
ffff.ffff.ffff          0        Learned
```

Table 7: show controllers backplane ethernet manageability bridge forwarding Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module*_[S0	S1] naming notation.
MAC Address	Displays a unicast 48-bit MAC address for which the bridge has forwarding and/or filtering information.
Ingress Port	Displays the number of the port. A value of 0 indicates that the port number has not been learned, but that the bridge does have some forwarding/filtering information about this address.

Field	Description
Status	Displays the status of the port, which can be one of the following: • Other—None of the other values applies. • Invalid—The forwarding table entry is no longer valid (for example, it was learned and has since aged out), but has not yet been flushed from the table. • Learned—The port was learned and is being used. • Self—The MAC address of the port represents one of the addresses. • Mgmt—The MAC address of the port is also the value of an existing instance of dot1dStaticAddress.

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge fdb-entry, on page 18	Displays the forwarding table entry for a CE bridge port.
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.

show controllers backplane ethernet manageability bridge list

To display the Control Ethernet (CE) bridges distributed across a Cisco CRS system, use the **show controllers backplane ethernet manageability bridge list** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge list

Syntax Description   This command has no keywords or arguments.

Command Default   None

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines   The Cisco CRS system is comprised of multiple CE bridges. Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge.

Task ID

Task ID	Operations
fabric	read
system	read

Examples   The following example displays a list of CE bridges that comprise a routing system:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge list

ControlEthernet0_RP0_CPU0_S0
ControlEthernet0_RP1_CPU0_S0
ControlEthernet1_RP0_CPU0_S0
ControlEthernet1_RP1_CPU0_S0
ControlEthernetF0_SC0_CPU0_S0
ControlEthernetF0_SC0_CPU0_S1
ControlEthernetF0_SC1_CPU0_S0
ControlEthernetF0_SC1_CPU0_S1
ControlEthernetF1_SC0_CPU0_S0
ControlEthernetF1_SC0_CPU0_S1
```

Table 8: show controllers backplane ethernet manageability bridge list Field Descriptions

Field	Description
bridge-name	Displays the name of each bridge in the ControlEthernet*rack_slot_module*_S0	S1 naming notation where an explanation of each components is as follows: • *rack* = Chassis number of the rack. • *slot* = Physical slot number of the card. • *module* = Processor module number is always CPU0. • S0	S1 = S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

Related Commands

Command	Description
show platform	Displays information and status for each node in the system.

show controllers backplane ethernet manageability bridge port

To display information for a Control Ethernet (CE) bridge port, use the **show controllers backplane ethernet manageability bridge port** command in administration EXEC mode.

{**show controllers backplane ethernet manageability bridge** *bridge-name* **port** *port-number* **basic** | **span-tree** | **transparent**}

Syntax Description

bridge-name	Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation: ControlEthernet*rack_slot_module*_[S0 | S1] The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0. **Note** To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.
port-number	Specify a bridge port number. The range is from 1 to 50.
basic	Displays basic information for a bridge port.
span-tree	Displays Spanning Tree Protocol (STP) information for a bridge port.
transparent	Displays transparent bridging information for a bridge port.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module*_[S0 | S1]) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 | S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

The Cisco CRS system is comprised of multiple bridges. Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge. STP is implemented to avoid bridging loops within the control plane network.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display basic information for port 12 on bridge ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 port 12 basic

Bridge Base Port Information
-----------------------------------------
Bridge Name            : ControlEthernet0_RP0_CPU0_S0
Port Id                : 12
InterfaceName          : ControlEthernet0_RP0_CPU0_S0_12
Circuit                : NULL
Delay Discards         : 0
MTU Discards           : 0
-----------------------------------------
```

Table 9: show controllers backplane ethernet manageability bridge port basic Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module*_[S0	S1] naming notation.
Port ID	Displays the number of the port for which you are displaying information.
Interface Name	Displays the name of the interface associated with the port in the ControlEthernet*rack_slot_module*_[S0	S1]_*port* naming notation.
Circuit	Displays a unique name (NULL) for a port that potentially has the same value as another port on the same bridge.
Delay Discards	Displays the number of frames discarded by the port because of excessive transit delays through the bridge. This counter is incremented by both transparent and source route bridges.
MTU Discards	Displays the number of frames discarded by the port because they are too large. This counter is incremented by both transparent and source route bridges.

The following example shows how to display STP information for port 12 on bridge ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 port 12 span-tree

Bridge stp Port Information
-----------------------------------------
Bridge Name            : ControlEthernet0_RP0_CPU0_S0
Port Id                : 12
```

```
Port Priority          : 128
Port State             : forwarding(5)
Port Enabled           : enabled(1)
Path Cost              : 200000
Port Designated Root   : 90 01 00 11 93 ef e8 e2
Port Designated Cost   : 0
Port Designated Bridge : 90 01 00 11 93 ef e8 e2
Designated Port        : 32770
Forward Transport count : 2
-----------------------------------------
```

Table 10: show controllers backplane ethernet manageability bridge port span-tree Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module_*[S0 | S1] naming notation.
Port ID	Displays the number of the port for which you are displaying information.
Port Priority	Displays the value of the priority field, which is contained in the first octet (in network byte order) of the Port ID (2 octet long).
Port State	Displays the current state of the port as defined by STP. Valid values are disabled(1), blocking(2), listening(3), learning(4), forwarding(5), and broken(6).
Port Enabled	Indicates whether the port is enabled or disabled.
Path Cost	Displays the contribution of the port to the cost of paths towards its spanning tree root.
Port Designated Root	Displays the unique identifier of the bridge, which is recorded as the root in the bridge protocol data units (BPDUs). The BPDUs are transmitted by the designated bridge for the segment to which the port is attached.
Port Designated Cost	Displays the path cost of the designated port for the segment connected to this port.
Port Designated Bridge	Displays the identifier of the bridge that a port considers to be the designated bridge for the segment connected to this port.
Designated Port	Displays the identifier of the port on the designated bridge for the segment connected to this port.
Forward Transport Count	Displays the number of times this port has transitioned from the learning to the forwarding states.

The following example shows how to display transparent bridging information for port 12 on bridge ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 port 12 transparent

Bridge tp Port Information
-----------------------------------------
Bridge Name              : ControlEthernet0_RP0_CPU0_S0
```

```
Port Id                : 12
Maximum                : 1504
Receive Count          : 1
Transmit Count         : 123
Received Discards      : 0
----------------------------------------
```

Table 11: show controllers backplane ethernet manageability bridge port transparent Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module*_[S0 | S1] naming notation.
Port ID	Displays the number of the port for which you are displaying information.
Maximum	Displays the maximum size, in bytes, of the INFO (non-MAC) field that the port receives or transmits.
Receive Count	Displays the number of frames received by the port from the segment to which it is connected.
Transmit Count	Displays the number of frames transmitted by the port to the segment to which it is connected.
Received Discards	Displays the number of received valid frames that were discarded.

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.
show controllers backplane ethernet manageability bridge fdb-entry, on page 18	Displays the forwarding table entry for a CE bridge port.

show controllers backplane ethernet manageability bridge span-tree

To display Spanning Tree Protocol (STP) information for a Control Ethernet (CE) bridge, use the **show controllers backplane ethernet manageability bridge span-tree** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge *bridge-name* **span-tree**

Syntax Description

bridge-name	Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation:
	ControlEthernet*rack_slot_module*_[S0	S1]
	The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0.
	Note To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.

Command Default   No default behavior or values

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module*_[S0 | S1]) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 | S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

The Cisco CRS system is comprised of multiple bridges. Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge. STP is implemented to avoid bridging loops within the control plane network.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display STP information for bridge ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 span-tree

Spanning Tree Protocol Information
-------------------------------------------
Bridge Name            : ControlEthernet0_RP0_CPU0_S0
STP Version            : IEEE8021D
STP Priority           : 36864
STP Topology Change    : 1793743
STP Topology Change Count: 2
Designated Root        : 90 00 00 11 93 ef e8 e2
STP Root Cost          : 0
STP Root Port          : 0
Maximum Age            : 8
Hello Time             : 1
STP Hold Time          : 1
STP Forward Delay      : 6
Bridge Maximum Age     : 8
Bridge Hello Time      : 1
Bridge Forward Delay   : 6
-------------------------------------------
```

Table 12: show controllers backplane ethernet manageability bridge span-tree Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module*_[S0 | S1] naming notation.
STP Version	Displays the STP version that is currently running.
STP Priority	Displays the value of the writable portion of the bridge ID (the first two octets of the bridge ID). The valid range is 0 through 65535.
STP Topology Change	Displays the time, in hundredths of a second, since a topology change was last detected by the bridge.
STP Topology Change Count	Displays the number of topology changes detected by the bridge since the management entity was last reset or initialized.
Designated Root	Displays the bridge identifier of the root of the spanning tree as determined by STP.
STP Root Cost	Displays the path cost from the bridge to the root.
STP Root Port	Displays the number of the port that offers the lowest cost path from the bridge to the root bridge.
Maximum Age	Displays the maximum age, in hundredths of a second, of STP information learned from the network on any port before it is discarded.

Field	Description
Hello Time	Displays the time, in hundredths of a second, between the transmission of bridge protocol data units (BPDUs) by any port that is the root of the spanning tree or trying to become the root.
STP Hold Time	Displays the amount of time, in hundredths of a second, that determines the interval during which no more than two BPDUs are transmitted by the node.
STP Forward Delay	Displays a time value, in hundredths of a second, that determines how fast a port changes its spanning state when moving toward the forwarding state.
Bridge Maximum Age	Displays a maximum age value used by all bridges when this bridge is acting as the root.
Bridge Hello Time	Displays a hello time value used by all bridges when this bridge is acting as the root.
Bridge Forward Delay	Displays a forward delay value used by all bridges when this bridge is acting as the root.

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.
show controllers backplane ethernet manageability bridge port, on page 26	Displays information for a CE bridge port.

show controllers backplane ethernet manageability bridge transparent

To display transparent bridging information for a Control Ethernet (CE) bridge, use the **show controllers backplane ethernet manageability bridge transparent** command in administration EXEC mode.

show controllers backplane ethernet manageability bridge *bridge-name* **transparent**

Syntax Description	**bridge-name** Identifies the bridge whose information you want to display. For the *bridge-name* argument, use the following naming notation:

ControlEthernet*rack_slot_module*_[S0 | S1]

The underscore between values is required as part of the notation. A sample bridge name is ControlEthernet0_RP0_CPU0_S0.

> **Note** To view a list of CE bridges currently in the system, enter the **show controllers backplane ethernet manageability bridge list** command.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines An explanation of each component of the bridge naming notation (ControlEthernet*rack_slot_module*_[S0 | S1]) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 | S1]: S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge.

Each route processor (RP) card has one S0 bridge, and each system controller (SC) card has one S0 bridge and one S1 bridge.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display transparent bridging information for bridge ControlEthernet0_RP0_CPU0_S0:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability bridge
ControlEthernet0_RP0_CPU0_S0 transparent

Spanning Tree Protocol Information
-------------------------------------------
Bridge Name            : ControlEthernet0_RP0_CPU0_S0
Learned Discards       : 0
Aging Time             : 300
-------------------------------------------
```

Table 13: show controllers backplane ethernet manageability bridge transparent Field Descriptions

Field	Description
Bridge Name	Displays the name of the bridge in the ControlEthernet*rack_slot_module*_[S0 | S1] naming notation.
Learned Discards	Displays the number of forwarding database entries that were learned or would have been learned but have been discarded because of a storage space shortage in the forwarding database.
Aging Time	Displays the time-out period, in seconds, for aging out dynamically learned forwarding information.

Related Commands

Command	Description
show controllers backplane ethernet manageability bridge list, on page 24	Displays the CE bridges distributed across a Cisco CRS system.
show controllers backplane ethernet manageability bridge port, on page 26	Displays information for a CE bridge port.

show controllers backplane ethernet manageability interface attributes

To display attribute information for a Control Ethernet (CE) interface, use the **show controllers backplane ethernet manageability interface attributes** command in administration EXEC mode.

show controllers backplane ethernet manageability interface *interface-name* **attributes**

Syntax Description	*interface-name*	Identifies the CE interface whose information you want to display. For the *interface-name* argument, use the following naming notation:

ControlEthernet*rack/slot/module/*[S0 | S1]/*port*

The slash between values is required as part of the notation. A sample CE interface name is ControlEthernet0/RP0/CPU0/S0/1.

> **Note** To view a list of the CE interfaces for a node, enter the **show controllers backplane ethernet manageability interface list** command.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines An explanation of each component of the interface naming notation (ControlEthernet*rack/slot/module/*[S0 | S1]/*port*) is as follows:

- *rack*: Chassis number of the rack.
- *slot*: Physical slot number of the card.
- *module*: Processor module number is always CPU0.
- [S0 | S1]: S0 indicates an intra-rack switch, and S1 indicates an inter-rack switch.
- *port*: Physical port number of the interface.

Task ID

Task ID	Operations
fabric	read
system	read

Examples The following example shows how to display attribute information for a specified CE interface:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
ControlEthernet0/RP0/CPU0/S0/10 attributes

Control Ether Interface Attributes
--------------------------------
Interface Name      : ControlEthernet0_RP0_CPU0_S0_10
Interface Type      : Fast Ethernet
Interface Speed     : 100000000
Interface High Speed : 100
Admin Status        : 1
Oper  Status        : 1
Connector Present   : 0
Physical Address    : NA
--------------------------------
```

Table 14: show controllers backplane ethernet manageability interface attributes Field Descriptions

Field	Description
Interface Name	Displays the name of the CE interface in the ControlEthernet*rack_slot_module_*[S0 | S1]_*port* naming notation.
Interface Type	Displays the type of interface.
Interface Speed	Displays the current bandwidth, in bits per second, of the interface.
Interface High Speed	Displays the current bandwidth, in units of 1,000,000 bits per second, of the interface.
Admin Status	Displays the state of the interface. Valid values are 1 (up), 2 (down), and 3 (testing). While the interface is in a testing state, operational packets cannot be passed.
Oper Status	Displays the current operational state of the interface. Valid values are 1 (up), 2 (down), 3 (testing), 4 (unknown), 5 (dormant), 6 (not present), 7 (lower layer down).
Connector Present	Indicates whether the interface sublayer has a physical connector. Valid values include 0 (a physical connector is present), and 1 (a physical connector is not present).
Physical Address	The address of the interface at its protocol sublayer, if one is present.

Related Commands

Command	Description
show controllers backplane ethernet manageability interface list, on page 37	Displays a list of CE interfaces for a node.

show controllers backplane ethernet manageability interface list

To display a list of Control Ethernet (CE) interfaces for a node, use the **show controllers backplane ethernet manageability interface list** command in administration EXEC mode.

show controllers backplane ethernet manageability interface list [**location** *node-id*]

Syntax Description	**location** *node-id*	(Optional) Displays CE interfaces for a specified location. Enter the *node-id* argument in the *rack*/*slot*/*module* notation.
	Note	Use the **show platform** command to see a list of all nodes currently in the system.

Command Default	No default behavior or values
Command Default	CE interfaces for the active route processor (RP) are displayed.
Command Modes	Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines   No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display a list of the CE interfaces for the active RP, which in this case includes 18 ports.

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
list

ControlEthernet0/RP0/CPU0
ControlEthernet0/RP0/CPU0/S0/1
ControlEthernet0/RP0/CPU0/S0/2
ControlEthernet0/RP0/CPU0/S0/3
ControlEthernet0/RP0/CPU0/S0/4
ControlEthernet0/RP0/CPU0/S0/5
ControlEthernet0/RP0/CPU0/S0/6
ControlEthernet0/RP0/CPU0/S0/7
ControlEthernet0/RP0/CPU0/S0/8
ControlEthernet0/RP0/CPU0/S0/9
```

```
ControlEthernet0/RP0/CPU0/S0/10
ControlEthernet0/RP0/CPU0/S0/11
ControlEthernet0/RP0/CPU0/S0/12
ControlEthernet0/RP0/CPU0/S0/13
ControlEthernet0/RP0/CPU0/S0/14
ControlEthernet0/RP0/CPU0/S0/15
ControlEthernet0/RP0/CPU0/S0/16
ControlEthernet0/RP0/CPU0/S0/49
ControlEthernet0/RP0/CPU0/S0/50
```

The following example shows how to display a list of the CE interfaces for the standby RP, which in this case also includes 18 ports.

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
list location 0/RP1/CPU0

ControlEthernet0/RP1/CPU0
ControlEthernet0/RP1/CPU0/S0/1
ControlEthernet0/RP1/CPU0/S0/2
ControlEthernet0/RP1/CPU0/S0/3
ControlEthernet0/RP1/CPU0/S0/4
ControlEthernet0/RP1/CPU0/S0/5
ControlEthernet0/RP1/CPU0/S0/6
ControlEthernet0/RP1/CPU0/S0/7
ControlEthernet0/RP1/CPU0/S0/8
ControlEthernet0/RP1/CPU0/S0/9
ControlEthernet0/RP1/CPU0/S0/10
ControlEthernet0/RP1/CPU0/S0/11
ControlEthernet0/RP1/CPU0/S0/12
ControlEthernet0/RP1/CPU0/S0/13
ControlEthernet0/RP1/CPU0/S0/14
ControlEthernet0/RP1/CPU0/S0/15
ControlEthernet0/RP1/CPU0/S0/16
ControlEthernet0/RP1/CPU0/S0/49
ControlEthernet0/RP1/CPU0/S0/50
```

Table 15: show controllers backplane ethernet manageability interface list Field Descriptions

Field	Description
interface-name	Displays the name of each interface in the ControlEthernet*rack/slot/module/*S0	S1/*port* naming notation, where an explanation of each components is as follows: • *rack* = Chassis number of the rack. • *slot* = Physical slot number of the card. • *module* = Processor module number is always CPU0. • S0	S1 = S0 indicates an intra-rack bridge, and S1 indicates an inter-rack bridge. • *port*: Physical port number of the interface.

Related Commands

Command	Description
show platform	Displays information and status for each node in the system.

show controllers backplane ethernet manageability interface mau-autonet-info

To display medium attachment unit (MAU) auto negotiation information for a Control Ethernet (CE) interface, use the **show controllers backplane ethernet manageability interface mau-autonet-info** command in administration EXEC mode.

show controllers backplane ethernet manageability interface *interface-name* **mau-autonet-info**

Syntax Description	*interface-name* Identifies the CE interface whose information you want to display. For the *interface-name* argument, use the following naming notation:

ControlEthernet*rack/slot/module/*[S0 | S1]/*port*

The slash between values is required as part of the notation. A sample CE interface name is ControlEthernet0/RP0/CPU0/S0/1.

> **Note** To view a list of the CE interfaces for a node, enter the **show controllers backplane ethernet manageability interface list** command.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines An explanation of each component of the interface naming notation (ControlEthernet*rack/slot/module/*[S0 | S1]/*port*) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 | S1]: S0 indicates an intra-rack switch, and S1 indicates an inter-rack switch.

- *port*: Physical port number of the interface.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display information about MAU auto negotiation for interface ControlEthernet0/RP0/CPU0/S0/49:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
ControlEthernet0/RP0/CPU0/S0/49 mau-autoneg-info

Control Ether MAU Auto Neg Information
-------------------------------------
Interface Name            : ControlEthernet0_RP0_CPU0_S0_49
AutoNeg Admin Status      : Enabled
AutoNeg Remote Signal     : Not Detected
AutoNeg Config            : Other
AutoNeg Restart           : No Restart
Local Capability Bits     : b1000baseXFD
Advertised Capability Bits : b1000baseXFD
Received Capability Bits   : b1000baseXFD
-------------------------------------
```

Table 16: show controllers backplane ethernet manageability interface mau-autoneg-info Field Descriptions

Field	Description
Interface Name	Displays the name of the CE interface in the ControlEthernet*rack_slot_module_*[S0 | S1]*_port* naming notation.
AutoNeg Admin Status	Displays the status of the auto-negotiation function (enabled or disabled).
AutoNeg Remote Signal	Indicates whether or not auto-negotiation signaling is detected on the remote end of the link.
AutoNeg Config	Indicates the current status of the auto-negotiation process, which can be one of the following: other, configuring, complete, disabled, parallel detect fail.
AutoNeg Restart	Displays whether or not the auto-negotiation function is restarting link negotiation.

Field	Description
Local Capability Bits	Displays a value that uniquely identifies the set of capabilities of the local auto-negotiation entity, which can be one of the following: • bOther—Other or unknown • b10baseT—10BASE-T half-duplex mode • b10baseTFD—10BASE-T full-duplex mode • b100baseT4—100BASE-T4 • b100baseTX—100BASE-TX half-duplex mode • b100baseTXFD—100BASE-TX full-duplex mode • b100baseT2—100BASE-T2 half-duplex mode • b100baseT2FD—100BASE-T2 full-duplex mode • bfdxPause—PAUSE for full-duplex links • bfdxAPause—Asymmetric PAUSE for full-duplex links • bfdxSPause—Symmetric PAUSE for full-duplex links • bfdxBPause—Asymmetric and symmetric PAUSE for full-duplex links • b1000baseX—1000BASE-X, -LX, -SX, -CX half-duplex mode • b1000baseXFD—1000BASE-X, -LX, -SX, -CX full-duplex mode • b1000baseT—1000BASE-T half-duplex mode • b1000baseTFD—1000BASE-T full-duplex mode
Advertised Capability Bits	Displays a value that uniquely identifies the set of capabilities advertised by the local auto-negotiation entity. For a list of valid values, refer to the Local Capability Bits entry in this table.
Received Capability Bits	Displays a value that uniquely identifies the set of capabilities received from the remote auto-negotiation entity. For a list of valid values, refer to the Local Capability Bits entry in this table.

Related Commands

Command	Description
show controllers backplane ethernet manageability interface list, on page 37	Displays a list of CE interfaces for a node.
show controllers backplane ethernet manageability interface mau-info, on page 42	Displays medium attachment unit (MAU) information for a Control Ethernet (CE) interface.
show controllers backplane ethernet manageability interface mau-jack-type, on page 47	Displays the medium attachment unit (MAU) jack type for a CE interface.

show controllers backplane ethernet manageability interface mau-info

To display medium attachment unit (MAU) information for a Control Ethernet (CE) interface, use the **show controllers backplane ethernet manageability interface mau-info** command in administration EXEC mode.

show controllers backplane ethernet manageability interface *interface-name* **mau-info**

Syntax Description

interface-name	Identifies the CE interface whose information you want to display. For the *interface-name* argument, use the following naming notation:
	ControlEthernet*rack/slot/module/*[S0 | S1]/*port*
	The slash between values is required as part of the notation. A sample CE interface name is ControlEthernet0/RP0/CPU0/S0/1.

> **Note**   To view a list of the CE interfaces for a node, enter the **show controllers backplane ethernet manageability interface list** command.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

An explanation of each component of the interface naming notation (ControlEthernet*rack/slot/module/*[S0 \| S1]/*port*) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 \| S1]: S0 indicates an intra-rack switch, and S1 indicates an inter-rack switch.

- *port*: Physical port number of the interface.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display MAU information for interface ControlEthernet0/RP0/CPU0/S0/10:

```
RP/0/RP0/CPU0:router(admin)#show controllers backplane ethernet manageability interface
ControlEthernet0/RP0/CPU0/S0/10 mau-info

Control Ether MAU Information
--------------------------------
Interface Name       : ControlEthernet0_RP0_CPU0_S0_10
MAU Type             : dot3MauTypeAUI
MAU Status           : Operational
Media Available      : Available
Media Avail St Exits : 0
MAU Jabber state     : No Jabber
Jabber State Enters  : 0
False Carrier Events : 3
MAU DefaultType      : dot3MauTypeAUI
Auto Neg Supported   : 0
MAU TypeList Bits    : bOther
HCFalse Carriers      : 3
```

Table 17: show controllers backplane ethernet manageability interface mau-info Field Descriptions

Field	Description
Interface Name	Displays the name of the CE interface in the ControlEthernet*rack_slot_module_*[S0 | S1]*_port* naming notation.
MAU Type	Displays the MAU type, which can be one of the following: • dot3MauTypeAUI—No internal MAU, view from AUI • dot3MauType100BaseT4—4 pair category 3 UTP • dot3MauType1000BaseLXFD—Fiber over long-wavelength laser, full duplex mode • dot3MauType1000BaseSXFD—Fiber over short-wavelength laser, full duplex mode
MAU Status	Displays the current state of the MAU. Valid values are other, unknown, operational, standby, shutdown, and reset.
Media Available	Displays the state of the available MAU, which can be one of the following: • Other—The state of the MAU is not one of the other valid values. • Unknown—The state of the MAU is unknown; for example, the MAU is being initialized. • Available—The link, light, or loopback states are normal. • Not Available—The MAU is experiencing link loss or is in a low light or no loopback state. • Remote Fault—A fault is detected at the remote end of the link.

Field	Description
Media Avail St Exits	Displays the number of times that the MAU leaves the Available state.
MAU Jabber State	Displays the MAU jabber state, which can be one of the following: • Other—The jabber state of the MAU is not one of the other valid values. • Unknown—The jabber state of the MAU is unknown; for example, the MAU is being initialized. • No Jabber—The MAU is not jabbering. • Jabbering—The MAU is jabbering.
Jabber State Enters	Displays the number of times that the MAU enters the jabbering state.
False Carrier Events	Displays the number of false carrier events during idle in 100BASE-X links (dot3MauType100BaseT4, dot3MauType100BaseTX, dot3MauType100BaseFX, and all 1000Mbps types). For all other MAU types, this counter displays 0.
MAU Default Type	Displays the default administrative baseband MAU type to be used in conjunction with the operational MAU type.
Auto Neg Supported	Indicates whether or not auto negotiation is supported on the MAU. Valid values are 0 (auto negotiation is not supported), and 0 (auto negotiation is supported).
MAU Type List Bits	Displays a set of possible IEEE 802.3 types of the MAU, which can be one of the following: • bOther—Other or unknown • bAUI—AUI • b10base5—10BASE-5 • bFoirl—FOIRL • b10base2—10BASE-2 • b10baseT—10BASE-T duplex mode unknown • b10baseFP—10BASE-FP • b10baseFB—10BASE-FB • b10baseFL—10BASE-FL duplex mode unknown • b10broad36—10BROAD36

Field	Description
	• b10baseTHD—10BASE-T half duplex mode • b10baseTFD—10BASE-T full duplex mode • b10baseFLHD—10BASE-FL half duplex mode • b10baseFLFD—10BASE-FL full duplex mode • b100baseT4—100BASE-T4 • b100baseTXHD—100BASE-TX half duplex mode • b100baseTXFD—100BASE-TX full duplex mode • b100baseFXHD—100BASE-FX half duplex mode • b100baseFXFD—100BASE-FX full duplex mode • b100baseT2HD—100BASE-T2 half duplex mode
	• b100baseT2FD—100BASE-T2 full duplex mode • b1000baseXHD—1000BASE-X half duplex mode • b1000baseXFD—1000BASE-X full duplex mode • b1000baseLXHD—1000BASE-LX half duplex mode • b1000baseLXFD—1000BASE-LX full duplex mode • b1000baseSXHD—1000BASE-SX half duplex mode • b1000baseSXFD—1000BASE-SX full duplex mode • b1000baseCXHD—1000BASE-CX half duplex mode • b1000baseCXFD—1000BASE-CX full duplex mode • b1000baseTHD—1000BASE-T half duplex mode

Field	Description
	• b1000baseTFD—1000BASE-T full duplex mode
	• b10GbaseX—10GBASE-X
	• b10GbaseLX4—10GBASE-LX4
	• b10GbaseR—10GBASE-R
	• b10GbaseER—10GBASE-ER
	• b10GbaseLR—10GBASE-LR
	• b10GbaseSR—10GBASE-SR
	• b10GbaseW—10GBASE-W
	• b10GbaseEW—10GBASE-EW
	• b10GbaseLW—10GBASE-LW
	• b10GbaseSW—10GBASE-SW
HC False Carriers	Displays the number of false carrier events during idle in 100BASE-X and 1000BASE-X links. For all other MAU types, this counter displays 0.

Related Commands

Command	Description
show controllers backplane ethernet manageability interface list, on page 37	Displays a list of CE interfaces for a node.
show controllers backplane ethernet manageability interface mau-autonet-info, on page 39	Displays medium attachment unit (MAU) auto negotiation information for a CE interface.
show controllers backplane ethernet manageability interface mau-jack-type, on page 47	Displays the medium attachment unit (MAU) jack type for a CE interface.

show controllers backplane ethernet manageability interface mau-jack-type

To display the medium attachment unit (MAU) jack type for a Control Ethernet (CE) interface, use the **show controllers backplane ethernet manageability interface mau-jack-type** command in administration EXEC mode.

show controllers backplane ethernet manageability interface *interface-name* **mau-jack-type**

Syntax Description	*interface-name* Identifies the CE interface whose information you want to display. For the *interface-name* argument, use the following naming notation:

ControlEthernet*rack/slot/module/*[S0 | S1]/*port*

The slash between values is required as part of the notation. A sample CE interface name is ControlEthernet0/RP0/CPU0/S0/1.

> **Note**   To view a list of the CE interfaces for a node, enter the **show controllers backplane ethernet manageability interface list** command.

Command Default   No default behavior or values

Command Modes   Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines   An explanation of each component of the interface naming notation (ControlEthernet*rack/slot/module/*[S0 | S1]/*port*) is as follows:

- *rack*: Chassis number of the rack.
- *slot*: Physical slot number of the card.
- *module*: Processor module number is always CPU0.
- [S0 | S1]: S0 indicates an intra-rack switch, and S1 indicates an inter-rack switch.
- *port*: Physical port number of the interface.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display the MAU jack type for interface ControlEthernet0/RP0/CPU0/S0/10:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
ControlEthernet0/RP0/CPU0/S0/10 mau-jack-type

Control Ether MAU Jack Type
-----------------------------------
Interface Name          : ControlEthernet0_RP0_CPU0_S0_10
MAU Jack Type           : undefined or unknown
```

Table 18: show controllers backplane ethernet manageability interface mau-jack-type Field Descriptions

Field	Description
Interface Name	Displays the name of the interface in the ControlEthernet*rack_slot_module*_[S0	S1]_*port* naming notation.
MAU Jack Type	Displays the jack connector type, which can be undefined or unknown.

Related Commands

Command	Description
show controllers backplane ethernet manageability interface list, on page 37	Displays a list of CE interfaces for a node.
show controllers backplane ethernet manageability interface mau-autonet-info, on page 39	Displays medium attachment unit (MAU) auto negotiation information for a CE interface.
show controllers backplane ethernet manageability interface mau-info, on page 42	Displays medium attachment unit (MAU) information for a Control Ethernet (CE) interface.

show controllers backplane ethernet manageability interface statistics

To display statistics for a Control Ethernet (CE) interface, use the **show controllers backplane ethernet manageability interface statistics** command in administration EXEC mode.

show controllers backplane ethernet manageability interface *interface-name* **statistics**

Syntax Description	*interface-name*	Identifies the CE interface whose information you want to display. For the *interface-name* argument, use the following naming notation:
		ControlEthernet *rack/slot/module/* [S0 | S1]/ *port*
		The slash between values is required as part of the notation. A sample CE interface name is ControlEthernet0/RP0/CPU0/S0/1.

> **Note** To view a list of the CE interfaces for a node, enter the **show controllers backplane ethernet manageability interface list** command.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.8.0	This command was introduced.

Usage Guidelines

An explanation of each component of the interface naming notation (ControlEthernet*rack/slot/module/*[S0 \| S1]/*port*) is as follows:

- *rack*: Chassis number of the rack.

- *slot*: Physical slot number of the card.

- *module*: Processor module number is always CPU0.

- [S0 \| S1]: S0 indicates an intra-rack switch, and S1 indicates an inter-rack switch.

- *port*: Physical port number of the interface.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows how to display statistics for interface ControlEthernet0/RP0/CPU0/S0/1:

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet manageability interface
ControlEthernet0/RP0/CPU0/S0/1 statistics

Control Ether Interface Counters
--------------------------------
Interface Name      : ControlEthernet0_RP0_CPU0_S0_1
ifInOctets          : 16168240550
ifInUcastPkts       : 103181424
ifInMulticastPkts   : 5821166
ifInBroadcastPkts   : 1465909
ifInDiscards        : 0
ifInErrors          : 0
ifInUnknownProtos   : 0
ifOutOctets         : 14871704758
ifOutUcastPkts      : 104085365
ifOutMulticastPkts  : 30884564
ifOutBroadcastPkts  : 19
ifOutDiscards       : 0
ifOutErrors         : 0
ifDiscontinuityTime : 0
--------------------------------
```

Table 19: show controllers backplane ethernet manageability interface statistics Field Descriptions

Field	Description
Interface Name	Displays the name of the CE interface in the ControlEthernet*rack_slot_module*_[S0 | S1]_ *port* naming notation.
ifInOctets	Displays the total number of octets received on the interface, including framing characters.
ifInUcastPkts	Displays the number of packets that were not addressed to a multicast or broadcast address at this (sub-)layer but were delivered by the sublayer to a higher sublayer.
ifInMulticastPkts	Displays the number of packets that were addressed to a multicast address at this sublayer and were delivered by the sublayer to a higher (sub-)layer.
ifInBroadcastPkts	Displays the number of packets that were addressed to a broadcast address at this sublayer and were delivered by the sublayer to a higher (sub-)layer.
ifInDiscards	Displays the number of inbound packets that were discarded even though no errors that would prevent their delivery to a higher-layer protocol were detected.
ifInErrors	Displays the number of inbound packets or transmission units that contained errors, which prevented them from being delivered to a higher-layer protocol.
ifInUnknownProtos	Displays the number of received packets or transmission units that were discarded because of an unknown or unsupported protocol. If the interface that does not support protocol multiplexing, this field displays 0.
ifOutOctets	Displays the total number of octets, including framing characters, transmitted out of the interface.

Field	Description
ifOutUcastPkts	Displays the total number of packets that were not addressed to a multicast or broadcast address at this sublayer, including packets that were discarded or not sent, and that higher-level protocols requested be transmitted.
ifOutMulticastPkts	Displays the total number of packets that were addressed to a multicast or broadcast address at this sublayer, including packets that were discarded or not sent, and that higher-level protocols requested be transmitted.
ifOutBroadcastPkts	Displays the total number of packets that were addressed to a broadcast address at this sublayer, including packets that were discarded or not sent, and that higher-level protocols requested be transmitted.
ifOutDiscards	Displays the number of outbound packets that were discarded even though no errors that might prevent their transmission was detected.
ifOutErrors	Displays the number of outbound packets or transmission units that were not transmitted because of errors.
ifDiscontinuityTime	Displays the number of times that the interface experienced a discontinuity, which is when an interface is reset and its counter values are retained and not incremented until the interface is up again. If no discontinuities have occurred since the last re-initialization of the local management subsystem, then this field displays 0.

Related Commands

Command	Description
show controllers backplane ethernet manageability interface list, on page 37	Displays a list of CE interfaces for a node.

show controllers backplane ethernet multicast groups

To display information about backplane interfaces that are in multicast groups in a particular location, use the **show controllers backplane ethernet multicast groups** command in administration EXEC mode.

show controllers backplane ethernet multicast groups location *node-id*

Syntax Description		
location *node-id*	Displays backplane information for multicast groups for a specified location.	
	Note	Use the **show platform** command to see a list of all nodes currently in the system.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced. This command replaces the **show controllers backplane ethernet local multicast groups** and **show controllers backplane ethernet location brief multicast groups** commands.

Usage Guidelines

Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
fabric	read
system	read

Examples

The following example shows the output from the **show controllers backplane ethernet multicast groups** command, which displays a summary of information for the backplane interfaces.

```
RP/0/RP0/CPU0:router(admin)# show controllers backplane ethernet multicast groups location
 0/1/cpu0

Intf                     Multicast           Client registered for this address
Name                     address                Id              Name
------------------------------------------------------------------------
  FastEthernet0_2_CPU0   0100.0000.0064         2               GSP
                         0100.0000.0065         2               GSP
                         0100.0000.0066         2               GSP
                         0100.0000.0068         2               GSP
                         0100.0000.006a         2               GSP
                         0100.0000.006c         2               GSP
                         0100.0000.006e         2               GSP
                         0100.0000.0071         2               GSP
                         0100.0000.2774         2               GSP
                         0100.0000.2775         2               GSP
                         0100.0000.2776         2               GSP
```

```
                         0100.0000.2778            2                    GSP
                         0100.0000.277a            2                    GSP
                         0100.0000.2782            2                    GSP
                         0100.0000.278a            2                    GSP
                         0100.0000.2796            2                    GSP
                         0100.0000.2798            2                    GSP
```

Table 20: show controllers backplane ethernet multicast groups Field Description

Field	Description
Intf Name	Identifies the interface whose multicast addresses are displayed. **Note** A multicast address is a single address that refers to multiple network devices.
Multicast address	Multicast addresses associated with the specified interface. **Note** A multicast address is a single address that refers to multiple network devices.
ID	Client identifier.
Name	Client application name.

Related Commands

Command	Description
show controllers backplane ethernet brief, on page 5	Displays brief information about backplane Ethernet interfaces in a particular location.
show controllers backplane ethernet clients, on page 7	Displays information about client applications in a particular location.
show controllers backplane ethernet detail, on page 12	Displays detailed information about the backplane interfaces in a particular location.

show spantree

To display spanning tree configuration information, enter the **show spantree** command in administration EXEC mode.

show spantree {**mst 1** {**brief** | **detail** | **port** {**FE** *port-id* | **GE** *port-id*}} | **mst config**} **location** *node-id*

Syntax Description		
mst 1	Shows Multiple Spanning Tree (MST) information for instance 1.	
brief	Displays a summary of spanning tree information.	
detail	Displays detailed spanning tree information.	
port	Displays spanning tree information for a specific Spanning Tree Protocol (STP) port. Replace the *port-id* argument with the number that identifies the port you want to display. Range is 1 through 49.	
FE *port-id*	Identifies the FE port for which to display information. Valid values are 0 or 1.	
GE *port-id*	Identifies the GE port for which to display information. Valid values are 0 or 1.	
mst config	Shows MST configuration information.	
location *node-id*	Displays spanning tree information for the specified location.	
	Note	Use the **show platform** command to see a list of all nodes currently in the system.

Command Default No default behavior or values

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced.

Usage Guidelines Enter the **location** *node-id* argument in the *rack*/*slot*/*module* notation.

Task ID

Task ID	Operations
root-system	read
system	read

Examples The following example shows how to display MST information for instance 1 at the specified location:

```
RP/0/RP0/CPU0:router(admin)# show spantree mst 1 brief location 0/RP0/CPU0
```

```
##### MST   0 vlans mapped:   2-4094
Bridge        address 0011.93ef.e8e2  priority      36864 (36864 sysid 0)
Root          this switch for the CIST
Operational   hello time  1, forward delay  6, max age  8, txholdcount  6
Configured    hello time  1, forward delay  6, max age  8, max hops     4

Interface        Sts  Role Cost      Prio.Nbr Type
---------------- ---- ---- --------- -------- ------------------------------

##### MST   1 vlans mapped:   1
Bridge        address 0011.93ef.e8e2  priority      36865 (36864 sysid 1)
Root          this switch for MST1

Interface        Sts  Role Cost      Prio.Nbr Type
---------------- ---- ---- --------- -------- ------------------------------
      FE_Port_1  FWD Desg   200000 128.   2 P2p
```

Table 21: show spantree mst 1 brief Field Descriptions

Field	Description
MST *number*	Number of STP MST.
vlans mapped	VLAN numbers mapped to the MST.
Bridge address	MAC address of the bridge.
Bridge priority	STP priority of the bridge.
Root	MAC address of the root bridge.
Operational	Operational values of the following parameters: • hello time • forward delay • max age • txholdcount
Configured	Configured values of the following parameters: • hello time • forward delay • max age • max hops
Interface	Interfaces present in the STP.
Sts	Spanning tree status.
Role	Spanning tree role.

Field	Description
Cost	Spanning tree cost.
Prio. Nbr	Spanning tree priority.
Type	Type of link.

The following example shows how to display MST information for a specified FE port at a specified location:

```
RP/0/RP0/CPU0:router(admin)# show spantree mst 1 port FE 1 location 0/RP0/CPU0

FE_Port_1 of MST1 is designated forwarding
Edge port:            no        (default) port guard :   loop     (default)
Link type: point-to-point         (auto) bpdu filter: disable    (default)
Boundary : internal                       bpdu guard : disable    (default)
Bpdus (MRecords) sent 6122, received 3

Instance Role Sts Cost     Prio.Nbr Vlans mapped
-------- ---- --- --------- -------- ------------------------------
      1 Desg  FWD  200000 128.   2 1
```

Table 22: show spantree mst 1 port Field Descriptions

Field	Description
port-type Port *number* of MST1 is *status*	Spanning tree status of indicated port.
Edge port	Indicates whether or not the port is an edge port.
(default) port guard	Indicates that the loop port guard feature is on.
Link type	Port type, which can be point-to-point or point-to-multipoint.
(auto) bpdu filter	Indicates that the bridge protocol data unit (BPDU) filter is off.
Boundary	Type of boundary.
bpdu guard	Indicates that the BPDU guard feature is off.
Bpdus (MRecords) sent	Number of BPDU records sent.
Bpdus (MRecords) received	Number of BPDU records received.
Instance	Number of instances.
Role	STP role of the port.
Sts	Spanning tree status of the port.
Cost	Spanning tree cost of the port.
Prio. Nbr	Spanning tree priority of the port.
Vlans mapped	VLAN numbers that are mapped to the port.

The following example shows how to display MST configuration information for the specified location:

```
RP/0/RP0/CPU0:router(admin)# show spantree mst config location 0/RP0/CPU0

Name      [STP_1]
Revision     1
Instances configured 2

--------  ----------------------------------------------------------------------
   0      2-4094
   1      1
----------------------------------------------------------------------------------
```

Table 23: show spantree mst config Field Descriptions

Field	Description
Name	Identifies the MST for which information is displayed.
Revision	Revision of the current MST configuration.
Instances configured	Number of configured MST instances.
01	Identifier of the displayed instances.
2-4094q	VLANs that are mapped to the displayed MST.