



Ethernet Interface Commands

This module provides command line interface (CLI) commands for configuring Ethernet interfaces on the Cisco 8000 Series Routers.

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.

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carrier-delay

To delay the processing of hardware link down notifications, use the **carrier-delay** command in interface configuration mode.

carrier-delay {**down** *milliseconds* [**up** *milliseconds*] | **up** *milliseconds* [**down** *milliseconds*]}

Syntax Description

down *milliseconds* Length of time, in milliseconds, to delay the processing of hardware link down notifications. Range is from 0 through 2147483647.

up *milliseconds* Length of time, in milliseconds, to delay the processing of hardware link up notifications. Range is from 0 through 2147483647.

Command Default

No carrier-delay is used, and the upper layer protocols are notified as quickly as possible when a physical link goes down.

Command Modes

Interface configuration

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

When you delay the processing of hardware link down notifications, the higher layer routing protocols are unaware of a link until that link is stable.

If the **carrier-delay down** *milliseconds* command is configured on a physical link that fails and cannot be recovered, link down detection is increased, and it may take longer for the routing protocols to re-route traffic around the failed link.

In the case of very small interface state flaps, running the **carrier-delay down** *milliseconds* command prevents the routing protocols from experiencing a route flap.

Although the router accepts a value between 0 to 2147483647 milliseconds, the minimum value that is configured to the interface is 10 milliseconds, so as to avoid overloading the linecard control stack. We recommend that if your router has a value below 10 milliseconds, reconfigure the value to a minimum of 10 milliseconds, and if required assign a higher value.



Note

Enter the **show interface** command to see the current state of the carrier-delay operation for an interface. No carrier-delay information is displayed if carrier-delay has not been configured on an interface.

Task ID

Task ID Operations

interface read,
write

Examples

This example shows how to delay the processing of hardware link down notifications:

```
RP/0/RP0/CPU0:router(config-if)# carrier-delay down 10
```

The following example shows how to delay the processing of hardware link up and down notifications:

```
RP/0/RP0/CPU0:router(config-if)# carrier-delay up 100 down 100
```

clear lldp

To reset Link Layer Discovery Protocol (LLDP) traffic counters or LLDP neighbor information, use the **clear lldp** command in XR EXEC mode.

```
clear lldp {counters | table}
```

Syntax Description	
counters	Specifies that LLDP traffic counters are cleared.
table	Specifies that LLDP information in the neighbor table is cleared.

Command Default LLDP traffic counters are not reset, and LLDP neighbor information is not cleared.

Command Modes XR EXEC mode

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines To reset counters from the **show lldp traffic** command, use the **clear lldp counters** command. To clear neighbor information displayed by the **show lldp neighbors** command, use the **clear lldp table** command.

Task ID	Task ID	Operation
	ethernet-services	read, write

The following example shows how to clear the LLDP counters and display LLDP traffic. The output from the **show lldp traffic** command shows that all the traffic counters have been reset to zero.

```
RP/0/RP0/CPU0:router# clear lldp counters
RP/0/RP0/CPU0:router# show lldp traffic
LLDP traffic statistics:
  Total frames out: 0
  Total entries aged: 0
  Total frames in: 0
  Total frames received in error: 0
  Total frames discarded: 0
  Total TLVs discarded: 0
  Total TLVs unrecognized: 0
```

The following example shows how to clear the LLDP table. The output of the **show lldp neighbors** command shows that all information has been deleted from the table.

```
RP/0/RP0/CPU0:router# clear lldp table
RP/0/RP0/CPU0:router# show lldp neighbors
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID                Local Intf    Hold-time    Capability    Port ID
```

In the config mode:

```
RP/0/RP0/CPU0:ios(config)#int hun 0/1/0/0
RP/0/RP0/CPU0:ios(config-if)#clear lldp ?
destination  Configure LLDP Destination MAC on the interface
enable       Enable LLDP TX and RX on an interface
receive      Disable LLDP RX on an interface
transmit     Disable LLDP TX on an interface
```

interface (Ethernet)

To specify or create an Ethernet interface and enter interface configuration mode, use the **interface (Ethernet)** command in XR Config mode.

```
interface {TenGigE | TwentyFiveGigE | FortyGigE | HundredGigE | FourHundredGigE} interface-path-id
no interface {TenGigE | TwentyFiveGigE | FortyGigE | HundredGigE | FourHundredGigE}
interface-path-id
```

Syntax Description

TenGigE	Specifies or creates a Ten Gigabit Ethernet (10 Gbps) interface.
TwentyFiveGigE	Specifies or creates a Twentyfive Gigabit Ethernet (25 Gbps) interface
FortyGigE	Specifies or creates a Forty Gigabit Ethernet (40 Gbps) interface
HundredGigE	Specifies or creates a Hundred Gigabit Ethernet (100 Gbps) interface.
FourHundredGigE	Specifies or creates a Four hundred Gigabit Ethernet (400 Gbps) interface.
<i>interface-path-id</i>	Physical 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 Default

None

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

To specify a physical interface, the notation for the *interface-path-id* is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:

- *rack*: Chassis number of the rack.
- *slot*: Physical slot number of the line card.
- *module*: Module number. Always 0.
- *port*: Physical port number of the interface.

The *interface-path-id* is *rack/slot/module/port*. The slash between values is required as part of the notation. The supported *interface-path-id* ranges are:

- **TenGigE** — 0/0/0/0 - 0/0/0/31
- **TwentyFiveGigE** — 0/0/0/24 - 0/0/0/31

- **FortyGigE** — 0/0/1/0 - 0/0/1/1
- **HundredGigE** — 0/0/1/0 - 0/0/1/1

This example shows how to enter interface configuration mode for a HundredGigE Ethernet interface:

```
RP/0/RP0/CPU0:router(config)# interface HundredGigE 0/4/0/0  
RP/0/RP0/CPU0:router(config-if)#
```

I2transport (Ethernet)

To enable Layer 2 transport port mode on an Ethernet interface and enter Layer 2 transport configuration mode, use the **I2transport** command in interface or subinterface configuration mode for an Ethernet interface.

I2transport

This command has no keywords or arguments.

Command Default	None
------------------------	------

Command Modes	Interface configuration Sub-interface configuration
----------------------	--

Command History	Release	Modification
	Release 7.2.12	This command was introduced.

Usage Guidelines	The I2transport command and these configuration items are mutually exclusive:
-------------------------	---

- IPv4 address and L3 feature configuration
- IPv4 enable and L3 feature configuration
- Bundle-enabling configuration
- L3 sub-interfaces



- | | |
|-------------|---|
| Note | <ul style="list-style-type: none"> • After an interface or connection is set to Layer 2 switched, commands such as ipv4 address are not usable. If you configure routing commands on the interface, I2transport is rejected. • The I2transport command is mutually exclusive with any Layer 3 interface configuration. |
|-------------|---|



- | | |
|-------------|--|
| Note | Not all options in the command are supported. For instance, translate command can translate VLAN value, not Ethertype. |
|-------------|--|

Task ID	Task ID	Operations
	l2vpn	read, write

Examples

The following example shows how to enable Layer 2 transport port mode on an Ethernet interface and enter Layer 2 transport configuration mode:

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/24
Router(config-if)# l2transport
Router(config-if-l2)#
```



Note Ensure that the **l2transport** command is applied on the same line as the **interface** command for the Ethernet sub-interface.

The following example shows how to use the l2transport command on an Ethernet sub-interface:

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/24.10 l2transport
Router(config-subif)# encapsulation dot1q 10
```

To disable Layer 2 transport port mode on an Ethernet interface, use the **no** form of this command in the global configuration mode.

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/24
Router(config-if)# l2transport
Router(config-if-l2)# exit
Router(config)# no interface hundredGigE 0/0/0/24
```

Examples

The following example shows how to configure an interface or connection as Layer 2 switched under several different modes:

Ethernet Port Mode:

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/10
Router(config-if)# l2transport
```

Ethernet VLAN Mode:

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/0.1 l2transport
Router(config-if)# encapsulation dot1q 10
```

Ethernet VLAN Mode (QinQ):

```
Router# configure
Router(config)# interface hundredGigE 0/0/0/0.1 l2transport
Router(config-if)# encapsulation dot1q 10 second-dot1q 11
```



Note Ensure that the **l2transport** command is applied on the same line as the **interface** command for the Ethernet subinterface.

lldp

To enable the Link Layer Discovery Protocol (LLDP) globally for both transmit and receive operation on the system, use the **lldp** command in XR Config mode. To disable LLDP, use the **no** form of this command.

lldp

Syntax Description This command has no keywords or arguments.

Command Default LLDP is disabled.

Command Modes XR Config mode

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines When you enable LLDP globally using the **lldp** command, LLDP is not enabled on subinterfaces or bundle subinterfaces by default. This is to prevent the LLDP process from consuming high CPU cycles. In order to enable LLDP on subinterfaces and bundle subinterfaces as well, the **lldp subinterfaces enable** command is introduced.



Note When you use this command, you must remember that as the scale of interfaces (with subinterfaces and bundle subinterfaces) becomes higher, it might cause the LLDP process to hog the CPU.

Task ID	Task ID	Operation
	ethernet-services	read, write

This example shows how to enable LLDP globally on the router:

```
RP/0/RP0/CPU0:router(config)# lldp
```

This example shows how to enable LLDP on subinterfaces:

lldp (interface)

To enter LLDP configuration mode, use the **lldp (interface)** command.

lldp

Syntax Description This command has no keywords or arguments.

Command Default None

Command Modes Interface configuration (config-if)

Command History

Release	Modification
Release 7.0.12	This command was introduced.

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

Task ID

Task ID	Operation
ethernet-services	read, write
interface	read, write

This example shows how to enter LLDP configuration mode from Ethernet interface configuration mode:

```
RP/0/RP0/CPU0:router(config)# interface HundredGigabitEthernet 0/1/0/0
RP/0/RP0/CPU0:router(config-if)# lldp
RP/0/RP0/CPU0:router(config-lldp)#
```

Related Commands

Command	Description
show lldp interface, on page 37	Displays LLDP configuration and status information on an interface.
lldp, on page 11	Enables LLDP globally for both transmit and receive operation on the system.

lldp holdtime

To specify the length of time that information from a Link Layer Discovery Protocol (LLDP) packet should be held by the receiving device before aging and removing it, use the **lldp holdtime** command in XR Config mode. To return to the default, use the **no** form of this command.

lldp holdtime *seconds*

Syntax Description	<i>seconds</i> Number from 0 to 65535 that specifies the amount of time (in seconds) to hold the packet information. The default is 120.
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Command Default	The packet hold time is 120 seconds (2 minutes).
------------------------	--

Command Modes	XR Config mode
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Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines

Task ID	Task ID	Operation
	ethernet-services	read, write

This example shows how to change the default hold time to 1 minute:

```
RP/0/RP0/CPU0:router(config)# lldp holdtime 60
```

lldp reinit

To specify the length of time to delay initialization of the Link Layer Discovery Protocol (LLDP) on an interface, use the **lldp reinit** command in XR Config mode. To return to the default, use the **no** form of this command.

lldp reinit *seconds*

Syntax Description

seconds Number from 2 to 5 that specifies the length of time (in seconds) that LLDP should delay initialization. The default is 2.

Command Default

Initialization of LLDP is delayed for 2 seconds on an interface.

Command Modes

XR Config mode

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

Task ID

Task ID	Operation
ethernet-services	read, write

The following example shows how to change the default initialization delay from 2 to 4 seconds:

```
RP/0/RP0/CPU0:router (config) # lldp reinit 4
```

Related Commands

Command	Description
lldp, on page 11	Enables LLDP globally for both transmit and receive operation on the system.

lldp timer

To specify the Link Layer Discovery Protocol (LLDP) packet rate, use the **lldp timer** command in XR Config mode. To return to the default, use the **no** form of this command.

lldp timer *seconds*

Syntax Description	<i>seconds</i> Number from 5 to 65534 that specifies the rate (in seconds) at which to send LLDP packets. The default is 30.
---------------------------	--

Command Default	LLDP packets are sent every 30 seconds.
------------------------	---

Command Modes	XR Config mode
----------------------	----------------

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

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

Task ID	Task ID	Operation
	ethernet-services	read, write

The following example shows how to change the default LLDP packet rate from 30 seconds to 1 minute:

```
RP/0/RP0/CPU0:router(config)# lldp timer 60
```

Related Commands	Command	Description
	lldp, on page 11	Enables LLDP globally for both transmit and receive operation on the system.

lldp tlv-select disable

To disable transmission of the selected Type Length Value (TLV) in Link Layer Discovery Protocol (LLDP) packets, use the **lld tlv-select disable** command in XR Config mode. To return to the default, use the **no** form of this command.

lldp tlv-select *tlv-name* **disable**

Syntax Description	<p><i>tlv-name</i> Name of the TLV to be suppressed from LLDP packets. The <i>tlv-name</i> can be one of the following LLDP TLV types:</p> <ul style="list-style-type: none"> • management-address • port-description • system-capabilities • system-description • system-name
---------------------------	--

Command Default	All TLVs are sent in LLDP packets.
------------------------	------------------------------------

Command Modes	XR Config mode
----------------------	----------------

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines	Certain TLVs are classified as mandatory in LLDP packets, such as the Chassis ID, Port ID, and Time to Live (TTL) TLVs. These TLVs must be present in every LLDP packet. You can use the lldp tlv-select disable command to suppress transmission of certain other optional TLVs in LLDP packets.
-------------------------	--

Task ID	Task ID	Operation
	ethernet-services	read, write

The following example shows how to disable transmission of the System Capabilities TLV from LLDP packets:

```
RP/0/RP0/CPU0:router(config)# lldp tlv-select system-capabilities disable
```


loopback (Ethernet)

To configure an Ethernet controller for loopback mode, use the **loopback** command in interface configuration mode. To disable loopback, use the **no** form of this command.

loopback {**external** | **internal** | **line**}

Syntax Description

external All IPv4 self-ping packets are sent out of the interface and looped back externally before being received on the ingress path.

internal All packets are looped back internally within the router before reaching an external cable.

line Incoming network packets are looped back through the external cable.

Command Default

Loopback mode is disabled.

Command Modes

Interface configuration

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

The **loopback** command is available for all Ethernet interface types.

Two loopback operation modes are supported for diagnostic purposes: internal and line. In the terminal (internal) loopback, the sent signal is looped back to the receiver. In the facility (line) loopback, the signal received from the far end is looped back and sent on the line. The two loopback modes cannot be active at the same time. In normal operation mode, neither of the two loopback modes is enabled.



Tip

Use the **loopback external** command when an external loopback connector is attached to the interface.

Task ID

Task ID	Operations
interface	read, write

Examples

In the following example, all packets are looped back to the TenGigE controller:

```
RP/0/RP0/CPU0:router(config)# interface TenGigE 0/3/0/0
RP/0/RP0/CPU0:router(config-if)# loopback internal
```

packet-gap non-standard

To change the packet interval for traffic on an interface for improved interoperability with Cisco 8000 Series Routers, use the **packet-gap non-standard** command in interface configuration mode. To use the standard packet interval as defined by the IEEE 802.3 specification, use the **no** form of this command.

packet-gap non-standard

Syntax Description	This command has no keywords or arguments.	
Command Default	The interface uses the standard packet interval as defined by the IEEE 802.3 specification.	
Command Modes	Interface configuration	
Command History	Release	Modification
	Release 7.0.12	This command was introduced.
Task ID	Task ID	Operations
	interface	read, write

Examples

This example shows how to change the packet interval for traffic on an interface from standard to nonstandard:

```
RP/0/RP0/CPU0:router(config)# interface TenGigE 0/3/0/0
RP/0/RP0/CPU0:router(config-if)# packet-gap non-standard
```

show controllers (Ethernet)

To display status and configuration information about the Ethernet interfaces on a specific node, use the **show controllers command** in XR EXEC mode.

```
show controllers {TenGigE | TwentyFiveGigE | FortyGigE | HundredGigE | FourHundredGigE}
interface-path-id [{all | bert | control | internal | mac | phy | regs | stats | xgxs}]
```

Syntax Description

{TenGigE TwentyFiveGigE FortyGigE HundredGigE FourHundredGigE}	Specifies the type of Ethernet interface whose status and configuration information you want to display. Enter TenGigE or HundredGigE.
<i>interface-path-id</i>	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.
all	Displays detailed information for the specified interface.
bert	Displays BERT status information for the interface.
control	Displays configuration and control information for the interface.
internal	Displays internal information for the interface.
mac	Displays mac information for the interface.
phy	Displays physical information for the interface.
regs	Displays registers information for the interface.
stats	Displays statistical information for the interface.
xgxs	Displays information about the 10 Gigabit Ethernet Extended Sublayer (XGXS).

Command Default	No default behavior or values
------------------------	-------------------------------

Command Modes	XR EXEC mode
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Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack/slot/module/port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
 - *rack*: Chassis number of the rack.
 - *slot*: Physical slot number of the line card.
 - *module*: Module number. Always 0.
 - *port*: Physical port number of the interface.
- If specifying a virtual interface, the number range varies, depending on interface type.

When there is a mismatch in port speeds between peer routers, no state difference is visible in the show controller optics command. However, during such a mismatch, the traffic route is not functional.

The *interface-path-id* is *rack/slot/module/port*. The slash between values is required as part of the notation. The supported *interface-path-id* ranges are:

- **TenGigE** — 0/0/0/0 - 0/0/0/31
- **TwentyFiveGigE** — 0/0/0/24 - 0/0/0/31
- **FortyGigE** — 0/0/1/0 - 0/0/1/1
- **HundredGigE** — 0/0/1/0 - 0/0/1/1

Task ID	Task ID	Operations
	cisco-support	read
		Note Required in addition to the interface (read) task ID to use the control keyword only.
	dwdm	read
	interface	read
	sonet-sdh	read

Examples

The following example shows sample output from the base form of the **show controllers TenGigE all** command:

```
RP/0/RP0/CPU0:router#
Operational data for interface TenGigE0/0/0/4:

State:
  Administrative state: disabled
  Operational state: Down (Reason: The optics for the port are not present)
  LED state: Yellow On

Media:
  Media type: Initializing, true state or type not yet known
  No optics present

MAC address information:
  Operational address: 001d.353b.975e
  Burnt-in address: 001d.353b.975e
  No unicast addresses in filter
  No multicast addresses in filter

Autonegotiation disabled.

Operational values:
  Speed: 10Gbps
  Duplex: Full Duplex
  Flowcontrol: None
  Loopback: None (or external)
  MTU: 1526
  MRU: 1526
  Inter-packet gap: standard (12)

BERT status for TenGigE0/0/0/4:
BERT State           :      DISABLED
Test Pattern         :      None test pattern
Time Remaining      :      0
Time Interval       :      0
Statistics for interface TenGigE0/0/0/4 (cached values):

Ingress:
  Input total bytes           = 0
  Input good bytes           = 0

  Input total packets        = 0
  Input 802.1Q frames        = 0
  Input pause frames         = 0
  Input pkts 64 bytes        = 0
  Input pkts 65-127 bytes    = 0
  Input pkts 128-255 bytes   = 0
  Input pkts 256-511 bytes   = 0
  Input pkts 512-1023 bytes  = 0
  Input pkts 1024-1518 bytes = 0
  Input pkts 1519-Max bytes  = 0

  Input good pkts            = 0
  Input unicast pkts        = 0
  Input multicast pkts      = 0
  Input broadcast pkts      = 0

  Input drop overrun        = 0
  Input drop abort          = 0
  Input drop unknown 802.1Q = 0
  Input drop other          = 0

  Input error giant          = 0
  Input error runt          = 0
  Input error jabbers       = 0
```

show controllers (Ethernet)

```

Input error fragments      = 0
Input error CRC            = 0
Input error collisions     = 0
Input error symbol        = 0
Input error other         = 0

Input MIB giant           = 0
Input MIB jabber          = 0
Input MIB CRC             = 0

Egress:
Output total bytes        = 0
Output good bytes        = 0

Output total packets      = 0
Output 802.1Q frames     = 0
Output pause frames      = 0
Output pkts 64 bytes     = 0
Output pkts 65-127 bytes = 0
Output pkts 128-255 bytes = 0
Output pkts 256-511 bytes = 0
Output pkts 512-1023 bytes = 0
Output pkts 1024-1518 bytes = 0
Output pkts 1519-Max bytes = 0

Output good pkts         = 0
Output unicast pkts     = 0
Output multicast pkts   = 0
Output broadcast pkts   = 0

Output drop underrun    = 0
Output drop abort       = 0
Output drop other       = 0

Output error other      = 0

Management information for interface TenGigE0/0/0/4:

Port number: 2
Bay number: 0
Interface handle: 0x100000c0

Config:
Auto-negotiation: Configuration not supported (Off)
Carrier delay (up): Not configured
Carrier delay (down): Not configured
Speed: Configuration not supported (10Gbps)
Duplex: Configuration not supported (Full Duplex)
Flow Control: Not configured (None)
TPG: Not configured (standard (12))
Loopback: Not configured (None)
MTU: Not configured
Soft Bandwidth: Not configured

Driver constraints:
Min MTU: 64 bytes
Max MTU: 9216 bytes
Max speed: 10Gbps
Interface type: TenGigE
Management interface: No
Promiscuous mode: Yes
Allowed config mask: 0x27b

Cached driver state:

```

```
MTU: 1522 bytes
Burnt-in MAC address: 001d.353b.975e

Bundle settings:
  Aggregated: No
  Bundle MTU: 1514 bytes
  Bundle MAC address: 001d.353b.975e

Port FSM state:
  Port is disabled, due to an admin down condition.
Complete FSM state:
  Admin down
  Bundle admin up
  Client admin up
  Client admin tx not disabled
  Port disabled
  Port tx disabled
  Hardware link down
IDB interface state information:
  IDB bundle admin up
  IDB client admin up
  IDB client tx admin up
  IDB error disable not set

0 Unicast MAC Addresses:

0 Multicast MAC Addresses:

0 Unicast Bundle MAC Addresses:

0 Multicast Bundle MAC Addresses:

Current Data
NP(01) Version      : 0003
Structure Version   : 2582
XAUI Interface      : B
MAC addr            : 00.1d.35.3b.97.5e
RX enabled          : False
TX enabled          : True
Obey Pause Frames  : False
TX Pause Frames    : False
Pause Re-TX Period : 3000000
Min Frame Len      : 60
Max Frame Len      : 1526
Ignore Errors      : False
Add CRC            : True
Strip CRC          : True
Ignore CRC Errors  : False
DMA Add CRC        : False
DMA Strip CRC      : False
Ignore Length Error: True
Pad Short Frames   : True
Min TX IFG         : 12
Min RX IFG         : 4
IFG Rate Control   : False
Hi Gig Mode        : False
Discard Ctrl Frames: True
Enable Stats Update: True
RX Stats Int Mask  : 0x00000000
TX Stats Int Mask  : 0x00000000

Port Number        : 2
Port Type          : 10GE
```

show controllers (Ethernet)

```

Transport mode      : LAN
BIA MAC addr       : 001d.353b.975e
Oper. MAC addr     : 001d.353b.975e
Port Available     : true
Status polling is  : enabled
Status events are  : enabled
I/F Handle        : 0x100000c0
Cfg Link Enabled   : disabled
H/W Tx Enable     : yes
MTU               : 1526
H/W Speed         : 10 Gbps
H/W Duplex        : Full
H/W Loopback Type : None
H/W FlowCtrl type : None
H/W AutoNeg Enable: Off
H/W Link Defects  : interface is admin down
Link Up           : no
Link Led Status   : Shutdown
Symbol errors     : 0
Serdes version    : 14.42
Input good underflow      : 0
Input ucast underflow    : 0
Output ucast underflow    : 0
Input unknown opcode underflow: 0
Pluggable Present       : no
Pluggable Type          : Unknown pluggable optics
Pluggable Compl.       : Not Checked
Pluggable Type Supp.: Not Checked
Pluggable PID Supp.  : Not Checked
Pluggable Scan Flg: false

```

XFP #2 is not present

```

Serdes Registers and info port: 2
  EDC Status      : 000000050 - EDC Acquiring
  Rx detected     : No
  Block lock      : No
  Tx aligned      : Yes

```

Operational data for interface HundredGigE0/2/0/0:
State:

```

  Administrative state: disabled
  Operational state: Down (Reason: State undefined)

```

Phy:

```

  Media type: IEEE 802.3/802.3ae clause 30.2.5
  No optics present

```

```

MAC address information:
  Burnt-in address: 0000.0000.0000

```

Autonegotiation disabled.

```

Operational values:
  Speed: Unknown
  Duplex: Unknown
  Flowcontrol: None
  Loopback: None (or external)

```



```
MTU: 0
MRU: 0
```

Statistics for interface HundredGigE0/2/0/0 (cached values):

Ingress:

```
Input total bytes           = 0
Input good bytes           = 0

Input total packets        = 0
Input 802.1Q frames        = 0
Input pause frames         = 0
Input pkts 64 bytes        = 0
Input pkts 65-127 bytes    = 0
Input pkts 128-255 bytes   = 0
Input pkts 256-511 bytes   = 0
Input pkts 512-1023 bytes  = 0
Input pkts 1024-1518 bytes = 0
Input pkts 1519-Max bytes  = 0

Input good pkts            = 0
Input unicast pkts         = 0
Input multicast pkts       = 0
Input broadcast pkts       = 0

Input drop overrun         = 0
Input drop abort           = 0
Input drop invalid VLAN    = 0
Input drop invalid DMAC    = 0
Input drop invalid encap   = 0
Input drop other           = 0

Input error giant          = 0
Input error runt           = 0
Input error jabbers        = 0
Input error fragments      = 0
Input error CRC            = 0
Input error collisions     = 0
Input error symbol         = 0
Input error other          = 0

Input MIB giant            = 0
Input MIB jabber           = 0
Input MIB CRC              = 0
```

Egress:

```
Output total bytes         = 0
Output good bytes          = 0

Output total packets       = 0
Output 802.1Q frames       = 0
Output pause frames        = 0
Output pkts 64 bytes       = 0
Output pkts 65-127 bytes   = 0
Output pkts 128-255 bytes  = 0
Output pkts 256-511 bytes  = 0
Output pkts 512-1023 bytes = 0
Output pkts 1024-1518 bytes = 0
Output pkts 1519-Max bytes = 0

Output good pkts           = 0
Output unicast pkts        = 0
Output multicast pkts      = 0
Output broadcast pkts      = 0
```

show controllers (Ethernet)

```

Output drop underrun      = 0
Output drop abort         = 0
Output drop other         = 0

Output error other        = 0

```

Management information for interface HundredGigE0/2/0/0:

```

Bay number: 96
Port number: 0
Interface handle: 0x1000130

```

Config:

```

Auto-negotiation: Configuration not supported (Off)
Carrier delay (up): Not configured
Carrier delay (down): Not configured
Speed: Configuration not supported (100Gbps)
Duplex: Configuration not supported (Full Duplex)
Flow Control: Configuration not supported (None)
Forward Error Correction: Not configured
IPG: Configuration not supported (standard (12))
Loopback: Not configured (None)
MTU: Not configured
Bandwidth: Not configured
BER-SD Threshold: Configuration not supported
BER-SD Report: Configuration not supported
BER-SF Threshold: Configuration not supported
BER-SF Report: Configuration not supported
BER-SF Signal Remote Failure: Configuration not supported

```

Driver constraints:

```

Min MTU: 64 bytes
Max MTU: 9216 bytes
Max speed: 100Gbps
Interface type: HundredGigE
Management interface: No
Promiscuous mode: Yes
Default carrier delay up (auto-neg on): 0 ms
Default carrier delay down (auto-neg on): 0 ms
Default carrier delay up (auto-neg off): 0 ms
Default carrier delay down (auto-neg off): 0 ms
Default carrier delay down (tx enable): 0 ms
Allowed config mask: 0x1243

```

Cached driver state:

```

MTU: 1514 bytes
Burnt-in MAC address: 089f.40ec.b120

```

Operational carrier delay:

```

Carrier delay (up): 0 ms
Carrier delay (down): 0 ms

```

Not a member of a bundle interface.

Port FSM state:

```

Port is enabled, link is up

```

Complete FSM state:

```

Admin down
Client admin down
Client admin tx not disabled
Port enabled
Port tx enabled

```

```
Hardware link up
IDB interface state information:
  IDB client admin down
  IDB client tx admin up
  IDB error disable not set

0 Unicast MAC Addresses:

0 Multicast MAC Addresses:
```

The following example shows sample output from the **show controllers hundredGigE control** command:

```
RP/0/RP0/CPU0:router#
Management information for interface TenGigE0/0/0/2:

Port number: 2
Bay number: 0
Interface handle: 0x100000c0

Config:
  Auto-negotiation: Configuration not supported (Off)
  Carrier delay (up): Not configured
  Carrier delay (down): Not configured
  Speed: Configuration not supported (10Gbps)
  Duplex: Configuration not supported (Full Duplex)
  Flow Control: Not configured (None)
  IPG: Not configured (standard (12))
  Loopback: Not configured (None)
  MTU: Not configured
  Soft Bandwidth: Not configured

Driver constraints:
  Min MTU: 64 bytes
  Max MTU: 9216 bytes
  Max speed: 10Gbps
  Interface type: TenGigE
  Management interface: No
  Promiscuous mode: Yes
  Allowed config mask: 0x27b

Cached driver state:
  MTU: 1522 bytes
  Burnt-in MAC address: 001d.353b.975e

Bundle settings:
  Aggregated: No
  Bundle MTU: 1514 bytes
  Bundle MAC address: 001d.353b.975e

Port FSM state:
  Port is disabled, due to an admin down condition.
Complete FSM state:
  Admin down
  Bundle admin up
  Client admin up
  Client admin tx not disabled
  Port disabled
  Port tx disabled
  Hardware link down
IDB interface state information:
  IDB bundle admin up
  IDB client admin up
```

show controllers (Ethernet)

```
IDB client tx admin up
IDB error disable not set

0 Unicast MAC Addresses:

0 Multicast MAC Addresses:

0 Unicast Bundle MAC Addresses:

0 Multicast Bundle MAC Addresses:
Management information for interface HundredGigE0/2/0/0:

Bay number: 96
Port number: 0
Interface handle: 0x1000130

Config:
  Auto-negotiation: Configuration not supported (Off)
  Carrier delay (up): Not configured
  Carrier delay (down): Not configured
  Speed: Configuration not supported (100Gbps)
  Duplex: Configuration not supported (Full Duplex)
  Flow Control: Configuration not supported (None)
  Forward Error Correction: Not configured
  IPG: Configuration not supported (standard (12))
  Loopback: Not configured (None)
  MTU: Not configured
  Bandwidth: Not configured
  BER-SD Threshold: Configuration not supported
  BER-SD Report: Configuration not supported
  BER-SF Threshold: Configuration not supported
  BER-SF Report: Configuration not supported
  BER-SF Signal Remote Failure: Configuration not supported

Driver constraints:
  Min MTU: 64 bytes
  Max MTU: 9216 bytes
  Max speed: 100Gbps
  Interface type: HundredGigE
  Management interface: No
  Promiscuous mode: Yes
  Default carrier delay up (auto-neg on): 0 ms
  Default carrier delay down (auto-neg on): 0 ms
  Default carrier delay up (auto-neg off): 0 ms
  Default carrier delay down (auto-neg off): 0 ms
  Default carrier delay down (tx enable): 0 ms
  Allowed config mask: 0x1243

Cached driver state:
  MTU: 1514 bytes
  Burnt-in MAC address: 089f.40ec.b120

Operational carrier delay:
  Carrier delay (up): 0 ms
  Carrier delay (down): 0 ms

Not a member of a bundle interface.

Port FSM state:
  Port is enabled, link is up

Complete FSM state:
  Admin down
  Client admin down
```

```

Client admin tx not disabled
Port enabled
Port tx enabled
Hardware link up
IDB interface state information:
IDB client admin down
IDB client tx admin up
IDB error disable not set

```

```
0 Unicast MAC Addresses:
```

```
0 Multicast MAC Addresses:
```

The following example shows sample output from the **show controllers TenGigE regs** command:

```
RP/0/RP0/CPU0:router# show controllers tenGigE 0/0/0/1 regs
```

```
MAC Registers for port: 1
GE MAC CFG      (#0954): 704c5e5a
GPCS Config     (#0147): 00000f08
GPCS Status     (#0236): 000000ca
GSERDES Status  (#0237): 0007fe09
```

```
RP/0/RP0/CPU0:router# show controllers tenGigE 0/0/0/4 regs
```

```
MAC Registers for port: 0
CONFIG1         (#1034): 03100a1a
CONFIG2         (#1035): 040c2398
CONTROL         (#1036): 00000000
ADDRESS_LOW     (#1037): 53ffa780
ADDRESS_HIGH    (#1038): 0000001b
MII_MGMT_CONFIG (#1039): 00000007
MII_MGMT_CMD    (#1040): 00000000
MII_MGMT_ADDRESS (#1041): 00000000
MII_MGMT_DATA   (#1042): 40000000
STAT_CONFIG     (#1043): 00000007
MASK_R          (#1044): 00000000
MASK_T          (#1045): 00000000
COMP           (#1046): 00100d24
MAC_CONFIG      (#1047): ffffffff
INTERRUPT_C     (#1048): 00000000
```

The following example shows sample output from the **show controllers hundredGigE stats** command:

```
RP/0/RP0/CPU0:router#
```

```
Statistics for interface TenGigE0/0/0/0 (cached values):
```

```
Ingress:
Input total bytes      = 9614339316
Input good bytes      = 9614339316

Input total packets   = 106713557
Input 802.1Q frames   = 0
Input pause frames    = 0
Input pkts 64 bytes   = 103907216
Input pkts 65-127 bytes = 2494185
Input pkts 128-255 bytes = 3410
Input pkts 256-511 bytes = 3406
Input pkts 512-1023 bytes = 2
Input pkts 1024-1518 bytes = 0
Input pkts 1519-Max bytes = 305338

Input good pkts      = 106713557
```

show controllers (Ethernet)

```

Input unicast pkts          = 105627141
Input multicast pkts        = 1086414
Input broadcast pkts        = 2

Input drop overrun          = 0
Input drop abort            = 0
Input drop unknown 802.1Q   = 0
Input drop other            = 0

Input error giant           = 0
Input error runt            = 0
Input error jabbers         = 0
Input error fragments       = 0
Input error CRC             = 0
Input error collisions      = 0
Input error symbol          = 0
Input error other           = 0

Input MIB giant             = 305338
Input MIB jabber            = 0
Input MIB CRC               = 0

Egress:
Output total bytes          = 15202682421
Output good bytes           = 15202682421

Output total packets        = 107534855
Output 802.1Q frames        = 0
Output pause frames         = 0
Output pkts 64 bytes        = 103862713
Output pkts 65-127 bytes    = 2448054
Output pkts 128-255 bytes   = 308716
Output pkts 256-511 bytes   = 6
Output pkts 512-1023 bytes  = 13
Output pkts 1024-1518 bytes = 0
Output pkts 1519-Max bytes  = 915353

Output good pkts            = 107534855
Output unicast pkts         = 105321133
Output multicast pkts       = 1298368
Output broadcast pkts       = 1

Output drop underrun        = 0
Output drop abort           = 0
Output drop other           = 0

Output error other          = 0

Statistics for interface HundredGigE0/2/0/0 (cached values):

Ingress:
Input total bytes           = 0
Input good bytes            = 0

Input total packets         = 0
Input 802.1Q frames         = 0
Input pause frames          = 0
Input pkts 64 bytes         = 0
Input pkts 65-127 bytes     = 0
Input pkts 128-255 bytes    = 0
Input pkts 256-511 bytes    = 0
Input pkts 512-1023 bytes   = 0
Input pkts 1024-1518 bytes  = 0
Input pkts 1519-Max bytes   = 0

```

```
Input good pkts           = 0
Input unicast pkts        = 0
Input multicast pkts      = 0
Input broadcast pkts      = 0

Input drop overrun        = 0
Input drop abort          = 0
Input drop invalid VLAN   = 0
Input drop invalid DMAC   = 0
Input drop invalid encap  = 0
Input drop other          = 0

Input error giant         = 0
Input error runt          = 0
Input error jabbers       = 0
Input error fragments     = 0
Input error CRC           = 0
Input error collisions    = 0
Input error symbol        = 0
Input error other         = 0

Input MIB giant           = 0
Input MIB jabber          = 0
Input MIB CRC             = 0
```

Egress:

```
Output total bytes        = 0
Output good bytes         = 0

Output total packets      = 0
Output 802.1Q frames      = 0
Output pause frames       = 0
Output pkts 64 bytes      = 0
Output pkts 65-127 bytes  = 0
Output pkts 128-255 bytes = 0
Output pkts 256-511 bytes = 0
Output pkts 512-1023 bytes = 0
Output pkts 1024-1518 bytes = 0
Output pkts 1519-Max bytes = 0

Output good pkts          = 0
Output unicast pkts       = 0
Output multicast pkts     = 0
Output broadcast pkts     = 0

Output drop underrun      = 0
Output drop abort         = 0
Output drop other         = 0

Output error other        = 0
```

show lldp

To display the global Link Layer Discovery Protocol (LLDP) operational characteristics on the system, use the **show lldp** command in XR EXEC mode.

show lldp

Syntax Description	This command has no keywords or arguments.	
Command Default	None	
Command Modes	XR EXEC mode	
Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines The **show lldp** command displays the LLDP operational characteristics when LLDP is enabled globally on the system using the **lldp** command. The settings for the following commands are displayed:

- **lldp timer**
- **lldp holdtime**
- **lldp reinit**

Task ID	Task ID	Operation
	ethernet-services	read

Example 1

The following example shows the default LLDP operational characteristics when LLDP is enabled globally on the system:

```
RP/0/RP0/CPU0:router# show lldp
Wed Apr 13 06:16:45.510 DST
Global LLDP information:
  Status: ACTIVE
  LLDP advertisements are sent every 30 seconds
  LLDP hold time advertised is 120 seconds
  LLDP interface reinitialisation delay is 2 seconds
```

Example 2

The following example shows the output when LLDP is not enabled globally on the system:


```
RP/0/RP0/CPU0:router# show lldp
Wed Apr 13 06:42:48.221 DST
% LLDP is not enabled
```

Related Commands	Command	Description
	lldp timer, on page 15	Specifies the LLDP packet rate.
	lldp holdtime, on page 13	Specifies the length of time that information from an LLDP packet should be held by the receiving device before aging and removing it.
	lldp reinit, on page 14	Specifies the length of time to delay initialization of LLDP on an interface.

show lldp entry

To display detailed information about LLDP neighbors, use the **show lldp entry** command in XR EXEC mode.

show lldp entry *{* name}*

Syntax Description	* Displays detailed information about all LLDP neighbors.
	name Name of a specific LLDP neighbor for which detailed information is displayed.

Syntax Description This command has no keywords or arguments.

Command Modes XR EXEC mode

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

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

Task ID	Task ID	Operation
	ethernet-services	read

The following example shows sample output for all LLDP neighbor table entries on the system:

```
RP/0/RP0/CPU0:router# show lldp entry *
Wed Apr 13 10:29:40.342 UTC
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

-----
Local Interface: HundredGigabitEthernet0/0/0/8
Chassis id: 0026.9815.c3e6
Port id: Gi0/0/0/8
Port Description: HundredGigabitEthernet0/0/0/8
System Name: asr9k-5

System Description:
Cisco IOS XR Software, Version 4.1.0.32I[Default]
Copyright (c) 2011 by Cisco Systems, Inc.

Time remaining: 102 seconds
Hold Time: 120 seconds
System Capabilities: R
Enabled Capabilities: R
Management Addresses:
  IPv4 address: 10.5.173.110
```

```
-----  
Local Interface: HundredGigabitEthernet0/0/0/8  
Chassis id: 0026.9815.c3e6  
Port id: Gi0/0/0/8.1  
Port Description: HundredGigabitEthernet0/0/0/8.1  
System Name: asr9k-5
```

```
System Description:  
Cisco IOS XR Software, Version 4.1.0.32I[Default]  
Copyright (c) 2011 by Cisco Systems, Inc.
```

```
Time remaining: 96 seconds  
Hold Time: 120 seconds  
System Capabilities: R  
Enabled Capabilities: R  
Management Addresses:  
  IPv4 address: 10.5.173.110
```

```
Total entries displayed: 2
```

show lldp errors

To display Link Layer Discovery Protocol (LLDP) error and overflow statistics, use the **show lldp errors** command in XR EXEC mode.

show lldp errors [**location** *location*]

Syntax Description	location <i>location</i> (Optional) Displays information about LLDP neighbors for the specified location. The <i>location</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	---

Command Default	Totals of LLDP error and overflow statistics for the system are displayed.
------------------------	--

Command Modes	XR EXEC mode
----------------------	--------------

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

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

Task ID	Task ID	Operation
	ethernet-services	read

The following example shows sample output for the **show lldp errors** command:

```
RP/0/RP0/CPU0:router# show lldp errors
Wed Apr 13 06:17:08.321 DST

LLDP errors/overflows:
  Total memory allocation failures: 0
  Total encapsulation failures: 0
  Total input queue overflows: 0
  Total table overflows: 0
```

Related Commands	Command	Description
	lldp, on page 11	Enables LLDP globally for both transmit and receive operation on the system.

show lldp interface

To display Link Layer Discovery Protocol (LLDP) configuration and status information on an interface, use the **show lldp interface** command in XR EXEC mode.

show lldp interface [*type interface-path-id* | **location** *location*]

Syntax Description		
<i>type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>interface-path-id</i>	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.
location <i>location</i>	(Optional) Displays information about LLDP neighbors for the specified location. The <i>location</i> argument is entered in the <i>rack/slot/module</i> notation.	

Command Default LLDP configuration and status information for all interfaces is displayed.

Command Modes XR EXEC mode

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines When LLDP is enabled globally on the system, all supported interfaces are automatically enabled for both LLDP receive and transmit operations. You can individually disable interfaces for either LLDP receive or transmit operations using the **receive disable** command or **transmit disable** command in LLDP configuration mode under the interface.

Task ID	Task ID	Operation
	ethernet-services	read

The following example shows sample output for the **show lldp interface** command for the Gigabit Ethernet interface at 0/1/0/7:

```
RP/0/RP0/CPU0:router# show lldp interface hundredgigabitethernet 0/1/0/7
Wed Apr 13 13:22:30.501 DST
```

```
HundredGigabitEthernet0/1/0/7:
  Tx: enabled
  Rx: enabled
  Tx state: IDLE
  Rx state: WAIT FOR FRAME
```

Table 1: show lldp interface Field Descriptions

Field	Description
Tx:	Configuration status of the interface to transmit LLDP advertisements.
Rx:	Configuration status of the interface to receive LLDP advertisements.
Tx state:	Status of the LLDP transmit process on the interface.
Rx state:	Status of the LLDP receive process on the interface.

Related Commands

Command	Description
lldp, on page 11	Enables LLDP globally for both transmit and receive operation on the system.
lldp (interface), on page 12	Enters LLDP configuration mode.

show lldp neighbors

To display information about Link Layer Discovery Protocol (LLDP) neighbors, use the **show lldp neighbors** command in XR EXEC mode.

show lldp neighbors [*type interface-path-id* | **location** *location*] [**detail**]

Syntax Description		
<i>type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>interface-path-id</i>	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.
location <i>location</i>	(Optional) Displays information about LLDP neighbors for the specified location. The <i>location</i> argument is entered in the <i>rack/slot/module</i> notation.	
detail	(Optional) Displays all available information about LLDP neighbors.	

Command Default Basic device information for LLDP neighbors is displayed.

Command Modes XR EXEC mode

Command History	Release	Modification
	Release 7.0.11	This command was introduced.

Usage Guidelines To clear the neighbor information displayed by the **show lldp neighbors** command, use the **clear lldp table** command.

Task ID	Task ID	Operation
	ethernet-services	read

The following example show sample output for the **show lldp neighbors** command:

```
RP/0/RP0/CPU0:router# show lldp neighbors
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID           Local Intf      Hold-time  Capability  Port ID
R1                  Et1/0          150       R           Et1/0

Total entries displayed: 1
```

Table 2: show lldp neighbors Field Descriptions

Field	Description
Device ID	Name of the neighbor device. Note If the device ID has more than 20 characters, the ID will be truncated to 20 characters in command output because of display constraints.
Local Intf	Local interface through which this neighbor is connected.
Hold-time	Amount of time (in seconds) that the local device will hold the LLDP advertisement from a sending device before discarding it.
Capability	The device type of the neighbor, whose values correspond to the characters and definition displayed in the "Capability codes" section.
Port ID	Interface and port number of the neighboring device.

The following example shows sample output for the **show lldp neighbors detail** command:

```
RP/0/RP0/CPU0:router# show lldp neighbors detail
Wed Apr 13 10:29:40.342 UTC
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

-----
Local Interface: HundredGigabitEthernet0/0/0/8
Chassis id: 0026.9815.c3e6
Port id: Gi0/0/0/8
Port Description: HundredGigabitEthernet0/0/0/8
System Name: asr9k-5

System Description:
Cisco IOS XR Software, Version 4.1.0.32I[Default]
Copyright (c) 2011 by Cisco Systems, Inc.

Time remaining: 102 seconds
Hold Time: 120 seconds
System Capabilities: R
Enabled Capabilities: R
Management Addresses:
    IPv4 address: 10.5.173.110

-----
Local Interface: HundredGigabitEthernet0/0/0/8
Chassis id: 0026.9815.c3e6
Port id: Gi0/0/0/8.1
Port Description: HundredGigabitEthernet0/0/0/8.1
System Name: asr9k-5

System Description:
Cisco IOS XR Software, Version 4.1.0.32I[Default]
```


Copyright (c) 2011 by Cisco Systems, Inc.

Time remaining: 96 seconds
Hold Time: 120 seconds
System Capabilities: R
Enabled Capabilities: R
Management Addresses:
 IPv4 address: 10.5.173.110

Total entries displayed: 2

show lldp traffic

To display statistics for Link Layer Discovery Protocol (LLDP) traffic, use the **show lldp traffic** command in XR EXEC mode.

show lldp traffic [**location** *location*]

Syntax Description	location <i>location</i> (Optional) Displays LLDP statistics for traffic at the specified location. The <i>location</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	---

Command Default	Totals of LLDP statistics for the system are displayed.
------------------------	---

Command Modes	XR EXEC mode
----------------------	--------------

Command History	Release	Modification
	Release 7.0.12	This command was introduced.

Usage Guidelines	To reset the counters displayed by the show lldp traffic command, use the clear lldp counters command.
-------------------------	--

Task ID	Task ID	Operation
	ethernet-services	read

The following example shows sample output for statistics for all LLDP traffic on the system:

```
RP/0/RP0/CPU0:router# show lldp traffic
LLDP traffic statistics:
  Total frames out: 277
  Total entries aged: 0
  Total frames in: 328
  Total frames received in error: 0
  Total frames discarded: 0
  Total TLVs discarded: 0
  Total TLVs unrecognized: 0
```

Table 3: show lldp traffic Field Descriptions

Field	Description
Total frames out:	Number of LLDP advertisements sent from the device.
Total entries aged:	Number of LLDP neighbor entries removed due to expiration of the hold time.
Total frames in:	Number of LLDP advertisements received by the device.
Total frames received in error:	Number of times the LLDP advertisements contained errors of any type.

Field	Description
Total frames discarded:	Number of times the LLDP process discarded an incoming advertisement.
Total TLVs discarded:	Number of times the LLDP process discarded a Type Length Value (TLV) from an LLDP frame.
Total TLVs unrecognized:	Number of TLVs that could not be processed because the content of the TLV was not recognized by the device or the contents of the TLV were incorrectly specified.

interface range

To configure multiple interfaces of the same type in the specified range with a single interface configuration element, use the **interface** *type, specified-range* command in interface configuration mode.

interface *{type, specified-range}*

Syntax Description	<i>type</i>	Defines an interface type that is supported in IOS XR.
	<i>specified-range</i>	Defines a range for the interface that will be configured. You can either use ',' or '-' to specify the range within system limits. For example, 2-4.
Command Default	None	
Command Modes	Global Interface Configuration	
Command History	Release	Modification
	Release 7.0.12	This command was introduced.
Usage Guidelines	This command needs memory allocation for the specified interface range. Refer to system limits specifications prior to specifying the range in the command.	
Task ID	Task ID	Operation
		interface read, write

This example shows how to configure HundredGigabitEthernet interface type for a specified range:

```
RP/0/RP0/CPU0:router(config)# int HundredGigabitEthernet 0/0/0/0,2-4
RP/0/RP0/CPU0:router(config-if-range)# description Test interface range
RP/0/RP0/CPU0:router(config-if-range)# show configuration
```

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Building configuration...

```
interface HundredGigabitEthernet0/0/0/0
```

```
description Test Interface range
```

!

```
interface HundredGigabitEthernet0/0/0/2
```

```
description Test Interface range
```

!

```
interface HundredGigabitEthernet0/0/0/3
```

```
description Test Interface range
```

```
!  
interface HundredGigabitEthernet0/0/0/4  
description Test Interface range  
!
```

This example shows how to configure TenGigabitEthernet interface type for a specified range:

```
RP/0/RP0/CPU0:router(config)# interface tengig 0/0/0/16/0-3
```

■ interface range