

Ethernet Services Commands

This module describes the command line interface (CLI) commands for configuring ethernet services on the Cisco 8000 Series Routers.

- aps-channel, on page 2
- description (G.8032), on page 4
- ethernet ring g8032, on page 5
- ethernet ring g8032 profile, on page 6
- exclusion list, on page 7
- inclusion-list, on page 8
- instance (G.8032), on page 9
- level, on page 10
- monitor interface (port0), on page 11
- monitor interface (port1), on page 13
- open ring, on page 15
- port0 interface, on page 16
- port1, on page 17
- profile, on page 18
- rpl, on page 19
- tcn-propagation, on page 21

aps-channel

To configure G.8032 instance APS channel and to enter Ethernet ring G.8032 instance aps-channel configuration submode, use the **aps-channel** command in the Ethernet ring g8032 instance configuration submode. To remove the G.8032 instance APS channel configuration, use the **no** form of this command.

aps-channel [**level** *message-level* | **port0** **interface** { **Bundle-Ether** | **FastEthernet** | **GigabitEthernet** | **TenGigE** } *interface-id* | **port1** { **bridge-domain** *bridge-domain-name* | **interface** { **Bundle-Ether** | **FastEthernet** | **GigabitEthernet** | **TenGigE** } *interface-id* | **none** | **xconnect** *xconnect-name* }]
no aps-channel [**level** *message-level* | **port0** **interface** { **Bundle-Ether** | **FastEthernet** | **GigabitEthernet** | **TenGigE** } *interface-id* | **port1** { **bridge-domain** *bridge-domain-name* | **interface** { **Bundle-Ether** | **FastEthernet** | **GigabitEthernet** | **TenGigE** } *interface-id* | **none** | **xconnect** *xconnect-name* }]

Syntax Description

level	Specifies the APS message level. The message level ranges from 0 to 7.
port0	Configures G.8032 aps-channel information associated to port0.
port1	Configures G.8032 aps-channel information associated to port1.
interface	Assigns interface associated to port0 or port1. You can assign one of these interfaces: • Bundle Ethernet • Fast Ethernet • Gigabit Ethernet • TenGigabit Ethernet
bridge-domain	Specifies VPLS domain where virtual channel is connected.
none	Specify APS channel port0 or port1 as none.
xconnect	Specifies VPWS xconnect where virtual channel is connected.

Command Default

None

Command Modes

L2VPN configuration mode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to configure G.8032 instance APS channel:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
Router(config-l2vpn-erp-instance)# profile p1
Router(config-l2vpn-erp-instance)# rpl port0 neighbor
Router(config-l2vpn-erp-instance)# inclusion-list vlan-ids e-g
Router(config-l2vpn-erp-instance)# aps-channel
Router(config-l2vpn-erp-instance-aps)#
```

description (G.8032)

To specify a string that serves as a description for a G.8032 Ethernet ring instance, use the **description** command in the Ethernet ring G.8032 instance configuration submode.

description *ring-instance-identifier*

Syntax Description

ring-instance-identifier	A string that serves as a description for a G.8032 Ethernet ring instance. The string can be a maximum of 32 characters.

Command Default

None

Command Modes

Ethernet ring G.8032 instance configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to specify a description for G.8032 Ethernet ring instance:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
Router(config-l2vpn-erp-instance)#
```

ethernet ring g8032

To enable G.8032 ring mode and enter the G.8032 configuration submode, use the **ethernet ring g8032** command in the L2VPN configuration mode. To disable the G.8032 ring mode, use the **no** form of this command.

ethernet ring g8032 *protocol ring identifier*
no ethernet ring g8032 *protocol ring identifier*

Syntax Description

protocol ring identifier	Ring profile name. The maximum size of the profile name is 32 characters.

Command Default

None

Command Modes

L2VPN configuration mode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to enable the G.8032 ring mode:

```
Router#configure
Router(config)#l2vpn
Router(config-l2vpn)#ethernet ring g8032 p1
Router(config-l2vpn-erp)#
```

ethernet ring g8032 profile

To configure G.8032 ring profile and to enter the G.8032 ring profile configuration mode, use the **ethernet ring g8032 profile**command in the global configuration mode. To disable the G.8032 ring profile, use the **no** form of this command.

ethernet ring g8032 profile *profile-name* [**non-revertive** | **timer** { **guard** *milliseconds* | **hold-off** *seconds* | **wtr** *minutes* }]

Syntax Description

non-revertive	Configures non-revertive ring instance.
timer	Configures G.8032 timer.
guard	Configures G.8032 guard timer. The Guard timer can be configured and the default time interval is 500 ms. The time interval ranges from 10 to 2000 ms.
hold-off	Configures G.8032 hold-off timer. The hold-off timer can be configured and the default time interval is 0 seconds. The time interval ranges from 0 to 10 seconds.
wtr	Configures G.8032 WTR timer. The WTR timer can be configured by the operator, and the default time interval is 5 minutes. The time interval ranges from 1 to 12 minutes.

Command Default

None

Command Modes

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
ethernet-services	read, write

Examples

This example shows you how to configure a G.8032 ring profile:

```
Router# configure
Router(config)# ethernet ring g8032 profile p1
Router(config-g8032-ring-profile)#
```

exclusion list

To define a set of Virtual LAN (VLAN) IDs that are not protected by the Ethernet ring protection mechanism, use the **exclusion list** command in Ethernet ring g8032 configuration submode. To delete the set of VLAN IDs, use the **no** form of this command.

exclusion list vlan-ids *vlan range*
no exclusion list vlan-ids *vlan range*

Syntax Description

vlan-ids	Specifies a list of VLANs. Ranges in the form a-b,c,d,e-f,g where VLAN value is 1–4094 and/or untagged. By default, all the VLANs configured under ring ports are blocked. VLAN IDs specified here cannot belong to the inclusion-list. VLAN IDs range cannot overlap with the IDs specified under inclusion-list.

Command Default

Configured physical Ethernet or ether bundle interface

Command Modes

Ethernet ring g8032 configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the exclusion list command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# exclusion-list vlan-ids e-g
Router(config-l2vpn-erp)#
```

inclusion-list

To associate a set of VLAN IDs with the current instance, use the **inclusion-list** command in the Ethernet ring G.8032 instance configuration submode. To disassociate the VLAN IDs with the current instance, use the **no** form of this command.

inclusion-list vlan-ids *vlan-id*
no inclusion-list vlan-ids *vlan-id*

Syntax Description

vlan-ids	Associates a set of VLAN IDs with the current instance.
vlan-id	List of VLAN IDs in the form vlan-id <vlan range>[,<vlan range][,<vlan range>][,<vlan range>].

Command Default

None

Command Modes

Ethernet ring G.8032 instance configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to associate VLAN IDs with instance 1:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
Router(config-l2vpn-erp-instance)# profile p1
Router(config-l2vpn-erp-instance)# rpl port0 neighbor
Router(config-l2vpn-erp-instance)# inclusion-list vlan-ids e-g
```

instance (G.8032)

To configure a G.8032 Ethernet ring instance and enter Ethernet ring G.8032 instance configuration submode, use the instance command in the Ethernet ring G.8032 configuration submode. To disable the G.8032 Ethernet ring instance, use the no form of this command.

instance *instance-id*
no instance *instance-id*

Syntax Description

instance-id	Instance ID; currently, supports up to two instances per Ethernet ring. The instance ID can be 1 or 2.

Command Default

None

Command Modes

Ethernet ring G.8032 configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to configure G.8032 Ethernet ring instance:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)#
```

level

To specify the APS message level, use the **level** command in the Ethernet ring G.8032 instance aps-channel configuration submode.

level *number*

Syntax Description

number	The APS message level. The range is from between 0 to 7.

Command Default

None

Command Modes

Ethernet ring G.8032 instance aps-channel configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to enable the G.8032 ring mode:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
Router(config-l2vpn-erp-instance)# profile p1
Router(config-l2vpn-erp-instance)# rpl port0 neighbor
Router(config-l2vpn-erp-instance)# inclusion-list vlan-ids e-g
Router(config-l2vpn-erp-instance)# aps-channel
Router(config-l2vpn-erp-instance-aps)# level 3
```

monitor interface (port0)

To specify a port to detect a ring link failure, use the **monitor interface** command in g8032 port0 submode. To delete the port, use the **no** form of this command.

monitor interface *interface-name*
no monitor interface *interface-name*

Syntax Description

interface-name	Name of the monitored interface. The monitored interface must be a sub-interface of the main interface.

Command Default

Configured physical Ethernet or Ether Bundle interface

Command Modes

Ethernet ring g8032 port0 submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the monitor interface command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 g1
Router(config-l2vpn-erp)# port0 interface TenGigE 0/0/0/0
Router(config-l2vpn-erp-port0)# monitor interface GigabitEthernet 0/0/0/0.5
Router(config-l2vpn-erp-port0)#exit
Router(config-l2vpn-erp)# exit
Router(config-l2vpn)# exit
Router(config)# ethernet cfm
Router(config-cfm)# domain dom23to24 level 6
Router(config-cfm-domain)# service ser23to24 down-meps
Router(config-cfm-svc)# continuity-check interval 10s
Router(config-cfm-svc)# mep crosscheck
Router(config-cfm-svc-xcheck)# mep-id 3
Router(config-cfm-svc-xcheck)# exit
Router(config-cfm-svc)# efd
Router(config-cfm-svc)# exit
Router(config-cfm)# exit
Router(config)# interface Gigabiteethernet0/0/0/0.5
```

```
Router(config-if)# ethernet cfm
Router(config-if-cfm)# mep domain dom23to24 service ser23to24 mep-id 4
```

monitor interface (port1)

To specify the port to detect a ring link failure, use the **monitor interface** command in g8032 port1 submode. To delete the port, use the **no** form of this command.

monitor interface *interface-name*
no monitor interface *interface-name*

Syntax Description

interface-name	Name of the monitored interface. The monitored interface must be a sub-interface of the main interface.

Command Default

Configured physical Ethernet or ether bundle interface

Command Modes

Ethernet ring g8032 port1 submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the monitor interface command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 g1
Router(config-l2vpn-erp)# port1 interface TenGigE 0/0/0/1
Router(config-l2vpn-erp-port1)# monitor interface GigabitEthernet 0/0/0/1.5
Router(config-l2vpn-erp-port1)#exit
Router(config-l2vpn-erp)# exit
Router(config-l2vpn)# exit
Router(config)# ethernet cfm
Router(config-cfm)# domain dom23to24 level 6
Router(config-cfm-domain)# service ser23to24 down-meps
Router(config-cfm-svc)# continuity-check interval 10s
Router(config-cfm-svc)# mep crosscheck
Router(config-cfm-svc-xcheck)# mep-id 3
Router(config-cfm-svc-xcheck)# exit
Router(config-cfm-svc)# efd
Router(config-cfm-svc)# exit
Router(config-cfm)# exit
Router(config)# interface Gigabiteethernet0/0/0/1.5
```

```
Router(config-if)# ethernet cfm
Router(config-if-cfm)# mep domain dom23to24 service ser23to24 mep-id 5
```

open ring

To specify Ethernet ring g8032 as an open ring, use the **open-ring** command in Ethernet ring g8032 configuration submode. To delete, use the **no** form of this command.

open-ring
no open-ring

This command has no keywords or arguments.

Command Default

The default value is FALSE.

Command Modes

Ethernet ring g8032 configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the **open-ring** command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 g1
Router(config-l2vpn-erp)# open-ring
Router(config-l2vpn-erp)#
```

port0 interface

To enable G.8032 for a specified ring port, use the **port0 interface** command in g8032 configuration port0 submode. To disable, use the **no** form of this command.

port 0 interface *interface name*
no port 0 interface *interface name*

Syntax Description

interface name	Any physical Ethernet or Bundle Ethernet interface. A physical port of the local node connected to G.8032 ring.

Command Default

None

Command Modes

Ethernet ring g8032 configuration port0 submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the port0 interface command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 g1
Router(config-l2vpn-erp)# port0 interface Bundle-Ether 555
Router(config-l2vpn-erp-port0)#
```

port1

To enable G.8032 for a specified ring port, use the **port1** command in g8032 configuration port1 submode. To disable, use the **no** form of this command.

port1 { **interface** *interface name* | **none** }

Syntax Description

interface *interface name*	Specifies physical Ethernet or Bundle Ethernet interface. A physical port of the local node connected to G.8032 ring. Enables G.8032 for the specified physical port to form a closed ring.
none	Specifies local node endpoint of an open-ring.

Command Default

None

Command Modes

Ethernet ring g8032 configuration port1 submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows the output from the port1 command:

```
Router# configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 g1
Router(config-l2vpn-erp)# port1 interface TenGigE 0/6/0/3
Router(config-l2vpn-erp-port1)#
```

profile

To specify an associated Ethernet ring G.8032 profile, use the **profile** command in the Ethernet ring G.8032 instance configuration submode.

profile *profile-name*

Syntax Description

profile-name	Ethernet ring G.8032 profile name.

Command Default

None

Command Modes

Ethernet ring G.8032 instance configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to specify a G.8032 ring profile name:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
Router(config-l2vpn-erp-instance)# profile p1
Router(config-l2vpn-erp-instance)#
```

rpl

To specify one ring port on local node being RPL owner, neighbor or next-neighbor, use the **rpl** command in the Ethernet ring G.8032 instance configuration submode. To disable the port as RPL owner, neighbor or next-neighbor, use the **no** form of this command.

rpl { **port0** | **port1** } { **owner** | **neighbor** | **next-neighbor** }
no rpl { **port0** | **port1** } { **owner** | **neighbor** | **next-neighbor** }

Syntax Description

port0	Assigns port0 as RPL owner, neighbor or next-neighbor.
port1	Assigns port1 as RPL owner, neighbor or next-neighbor.
owner	Assigns port0 or port1 as RPL owner.
neighbor	Assigns port0 or port1 as neighbor.
next-neighbor	Assigns port0 or port1 as next neighbor.

Command Default

None

Command Modes

Ethernet ring G.8032 instance configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to assign port0 as neighbor:

```
Router#configure
Router(config)# l2vpn
Router(config-l2vpn)# ethernet ring g8032 r1
Router(config-l2vpn-erp)# instance 1
Router(config-l2vpn-erp-instance)# description test
```

```
Router(config-l2vpn-erp-instance)# profile p1
Router(config-l2vpn-erp-instance)# rpl port0 neighbor
Router(config-l2vpn-erp-instance)#
```

tcn-propagation

To enable topology change notification (TCN) propagation, use the **tcn-propagation** command in the L2VPN configuration submode.

tcn-propagation

This command has no keywords or arguments.

Command Default

None

Command Modes

L2VPN configuration submode

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

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.

Task ID

Task ID	Operation
l2vpn	read, write

Examples

This example shows how to enable the G.8032 ring mode:

```
Router#configure
Router(config)#l2vpn
Router(config-l2vpn-erp)# tcn-propagation
Router(config-l2vpn)#
```