

OTU Controller Command Reference

This chapter describes commands to configure the OTUk controllers.

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controller otuk

To configure an OTUk controller, use the **controller** command in the global configuration mode.

controller otuk *Rack/Slot/Instance/Port*

Syntax Description

otuk	Name of the controller. The valid range of k is from 1 to 4.
Rack/Slot/Instance/Port	Interface instance of the controller.

Command Modes

Global configuration (config)

Command History

Release	Modification
5.2.1	This command was introduced.

Usage Guidelines

Before configuring the parameters of an OTUk controller, ensure that the OTUk controller is created.

Example

The following example shows how to access an interface instance of an OTU1 controller on port 1.

```
Router(config)# controller OTU1 0/0/0/1
```

fec

To configure the forward error connection (FEC) on an OTUk controller, use the **fec** command in the OTUk controller configuration mode.

fec [**EnhancedHG20** | **EnhancedI4** | **EnhancedI7** | **EnhancedSwizzle** | **Standard**]

Syntax Description

EnhancedHG20	Configures high-gain enhanced FEC with 7 percent OTN overhead.
EnhancedI4	Configures G.975.1.4 enhanced FEC with 7 percent OTN overhead.
EnhancedI7	Configures G.975.1.7 enhanced FEC with 20 percent OTN overhead.
Enhancedwizzle	Configures swizzle FEC with 6.7 percent OTN overhead.
Standard	Configures Standard G.975 Reed-Salomon algorithm with 7 percent overhead.

Command Default

By default, standard FEC is enabled.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Usage Guidelines

You can configure FEC for an OTUk controller only if the system is in the shut mode. For the OTU1 controller, you can configure only standard G.975 FEC. For the OTU2 controller, you can configure standard G.975 FEC, G.975.1.4 enhanced FEC, and G.975.1.7 enhanced FEC.

Example

The following example shows how to configure standard G.975 FEC on the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# fec Standard
```

gcc0

To configure general communication channel (GCC) on an OTUk controller, use the **gcc0** command in the OTUk controller configuration mode.

gcc0

Command Default By default, GCC is disabled.

Command Modes OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to configure GCC on the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# gcc0
```

loopback

To configure loopback on an OTUk controller, use the **loopback** command in the OTUk controller configuration mode.

loopback [**internal** | **line**]

Syntax Description

internal	Configures a terminal loopback on an OTUk controller.
line	Configures a line loopback on an OTUk controller.

Command Default

By default, loopback is disabled.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Usage Guidelines

You can configure loopback on an OTUk controller only if the secondary administrative state of the controller is maintenance.

Example

The following example shows how to configure a terminal loopback on the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# loopback internal
```

secondary-admin-state

To configure the secondary administrative state of an OTUK controller, use the **secondary-admin-state** command in the OTUk controller configuration mode.

secondary-admin-state [**automatic-in-service** | **maintenance** | **normal**]

Syntax Description

automatic-in-service	Configures the administrative state indicating that the controller is in service.
maintenance	Configures the administrative state indicating that the controller is under maintenance.
normal	Configures the administrative state indicating that the controller is normal.

Command Default

By default, the secondary administrative state of an OTUk controller is normal.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Usage Guidelines

The primary administrative state of an OTUk controller must be no shutdown if you want to configure a second administrative state of the controller. The secondary administrative state of OTUk controllers is inherited by the corresponding optics controllers. You cannot modify the secondary administrative state of an OTUk controller if a loopback is already configured on it.

Example

The following example shows how to configure the secondary administrative state as in service of the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# secondary-admin-state automatic-in-service
```

threshold

To configure threshold for signal failure and signal degrade on an OTUk controller, use the **threshold** command in the OTUk controller configuration mode.

threshold sf *value*

threshold sd *value*

Syntax Description

sf	Configures threshold for the signal failure on the OTUk controller.
value	Signal failure threshold. The valid range of signal failure is from 1 to 9. The default value is 3.
sd	Configures threshold for the signal degrade on the OTUk controller.
value	Signal degrade threshold. The valid range of signal failure is from 3 to 9. The default value is 6.

Command Default

By default, threshold for signal failure is 3 and signal degrade is 6 for a given OTUk controller.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to configure threshold for signal failure and signal degrade on the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# threshold sf 5
Router(config-otu1)# threshold sd 5
```

tti

To configure trail trace identifier (TTI) of the OTUk controller, use the **tti** command in the OTUk controller configuration mode.

tti expected [**ascii** *text* | **hex** *text*]

tti send [**ascii** *text* | **hex** *text*]

Syntax Description

expected	Configures the expected TTI of the OTUk controller.
send	Configures the transmitted TTI of the OTUk controller.
ascii	Configures the ASCII string of the TTI.
text	ASCII text. A maximum of 32 characters is allowed in the ASCII string.
hex	Configures the hexadecimal string of the TTI.
text	Hexadecimal text. A hexadecimal string must be an even number and a maximum of 64 characters is allowed in this string.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to configure the TTI of the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# tti expected ascii abc
Router(config-otu1)# tti expected hex ascx
Router(config-otu1)# tti send ascii zzz
Router(config-otu1)# tti send hex abcd
```

srlg

To configure shared risk link groups (SRLGs) for an OTUk controller, use the **srlg** command in the OTUk controller configuration mode.

srlg [**set** *index values*]

Syntax Description

set	Configures a set of SRLGs.
index	Configures the index of the given SRLG set. The valid range of index is from 1 to 17.
values	Configures the value of the network SRLG. The valid range of values is from 0 to 4294967294.

Command Modes

OTUk controller configuration (config-otuk)

Command History

Release	Modification
5.2.1	This command was introduced.

Usage Guidelines

You can create a maximum of 100 SRLGs distributed in 17 sets for a given OTUk controller. The first 16 sets can contain a maximum of six values and the seventeenth set can contain a maximum of four values.

Example

The following example shows how to configure a second set containing six SRLGs for the OTU1 controller.

```
Router(config)# controller OTU1 0/0/0/1
Router(config-otu1)# srlg set 2 3 4 5 6 7 9
```

interface gcc0

To enter the configuration mode of GCC interface on an OTUk controller, use the **interface gcc0** command in the global configuration mode.

interface gcc0 *Rack/Slot/Instance/Port*

Command Default

By default, GCC is disabled.

Command Modes

Global configuration mode (config)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to enter the configuration mode of GCC interface on an OTU controller.

```
Router(config)# interface gcc0 0/0/0/0
```

show controllers

To display all the details of an OTUk controller, use the **show controller** command in the global configuration mode.

show controllers otuk *Rack/Slot/Instance/Port*

show controllers otuk *Rack/Slot/Instance/Port* **te**

show controllers otuk *Rack/Slot/Instance/Port* **proactive**

Syntax Description

otuk	Name of the OTUk controller.
Rack/Slot/Instance/Port	Interface instance of the OTUk controller.
te	Displays all the transport engineering details of the OTUk controller.
proctive	Displays all the proactive protection details of the OTUk controller.

Command Modes

Global configuration (config)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to display the proactive protection details of the OTU1 controller.

```
Router(config)# show controllers otu1 0/0/0/1 proactive
```

```
Proactive Protection Status               : OFF
Proactive Protection State                :In Active -Interface is Up
Inputs affecting proactive protection state:
        Secondary admin state             : Normal
        Trigger threshold                 : 0E-0       (Default 1E-4)
        Revert threshold                  : 0E-0       (Default 1E-4)
        Trigger integration window        : 0 ms
        Revert integration window         : 0 ms
        Received APS                      : NA
        Transmitted APS                   : NA
```

show interfaces gcc0

To display all the interfaces on which GCC is configured, use the **show interfaces gcc0** command in the global configuration mode.

show interfaces gcc0 *Rack/Slot/Instance/Port*

Syntax Description

Rack/Slot/Instance/Port	Interface instance of the OTUk controller.

Command Modes

Global configuration (config)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to display all the interfaces on which GCC is configured.

```
Router(config)# show interfaces gcc0 0/1/0/0
```

```
GCC00/1/0/0 is up, line protocol is up
  Interface state transitions: 2
  Hardware is GCC0
  Internet address is 1.1.1.1/24
  MTU 4474 bytes, BW 4294967295 Kbit (Max: 4294967295 Kbit)
     reliability Unknown, txload Unknown, rxload Unknown
  Encapsulation PPP,  loopback not set, keepalive set (10 sec)
  LCP Open
  Open: IPCP
  Last input Unknown, output Unknown
  Last clearing of "show interface" counters Unknown
  Input/output data rate is disabled
```

show ip interfaces br

To display IP address and status of all the interfaces, use the **show ip interfaces br** command in the privileged mode.

show ip interfaces *Rack/Slot/Instance/Port*
show ip interfaces br *Rack/Slot/Instance/Port*

Syntax Description

Rack/Slot/Instance/Port	Interface instance of the OTUk controller.
br	Br shows the brief details of all the interfaces .

Command Modes

Privileged (#)

Command History

Release	Modification
5.2.1	This command was introduced.

Example

The following example shows how to display IP address and brief status of all the interfaces.

```
Router # show ip interfaces br
```

```
Wed Jan  5 05:04:46.659 UTC
Interface                      IP-Address      Status                Protocol
GCC00/0/0/0                    1.1.1.1         Up                    Down
MgmtEth0/RP1/CPU0/0            unassigned      Shutdown              Down
```