ONT Device Configuration, Cisco Catalyst PON Series Switches

First Published: 2020-11-09

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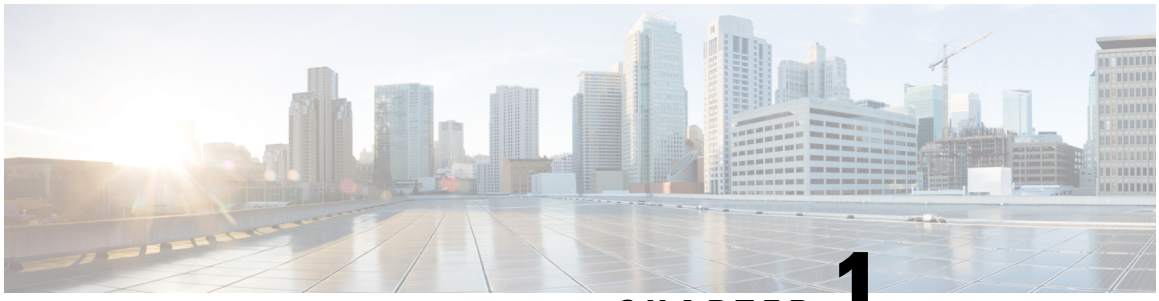

CHAPTER 1

ONT Upgrade

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Overview of ONT Upgrade

The ONT Upgrade feature allows you to upgrade an Optical Network Terminal-registered (ONT-registered) on the Optical Line Terminal (OLT). You can configure whether to automatically reboot an ONT or manually reboot an ONT after a software upgrade.

In automatic reboot, the latest version of an ONT is copied and committed after the ONT is automatically reloaded. In manual reboot the latest version is copied into the ONT. The latest version gets committed after the ONT is manually reloaded.

The ONT local generally supports host program backup, that is, there is a primary host program (primary software) and a backup host program (secondary software). When the host program fails to start, it switches to the standby host program automatically.

Configure ONT Upgrade

To configure ONT upgrade, perform this procedure.

Before you begin

- Upload the ONT version file to the OLT either through FTP or TFTP.
- The ONT must be in ONLINE state.
- Do not disconnect power from the ONT while the ONT software is being upgraded.

Procedure

	Command or Action	Purpose
Step 1	**enable**	Enables privileged EXEC mode.

	Command or Action	Purpose
	Example: `Device> enable`	Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont upgrade** {**auto-reboot** | **manual-reboot**} {*ont_id_list* | **exclude** {**device-type** *device-type* | **software-version** *software version*} | **include** {**device-type** *device-type* | **software-version** *software version*} | **sn** {**string-hex** *sn_num* | **hex** *sn_num*} } **Example:** `Device(config)# ont upgrade auto-reboot 0/1/1`	Configures the upgrade ONT for automatic reboot. • **auto-reboot**: Automatically reboots the ONT. • **manual-reboot**: Manually reboots the ONT. • *ont_id_list*: The list of ONT IDs. The format is in string. The range is from 1 to 256. • **exclude**: Excludes the ONT. • **include**: Includes the ONT. • **device-type** *device-type*: Device identifier. The format is in string. The range is from 1 to 256. • **software-version** *software version*: Software identifier. The format is in string. The range is from 1 to 14. • **sn**: The serial number of the ONT. • **string-hex** *sn_num*: The serial number in string and hexadecimal format. • **hex** *sn_num*: The serial number in hexadecimal format.

Monitor ONT Upgrade Status

Use the following command to monitor ONT upgrade status.

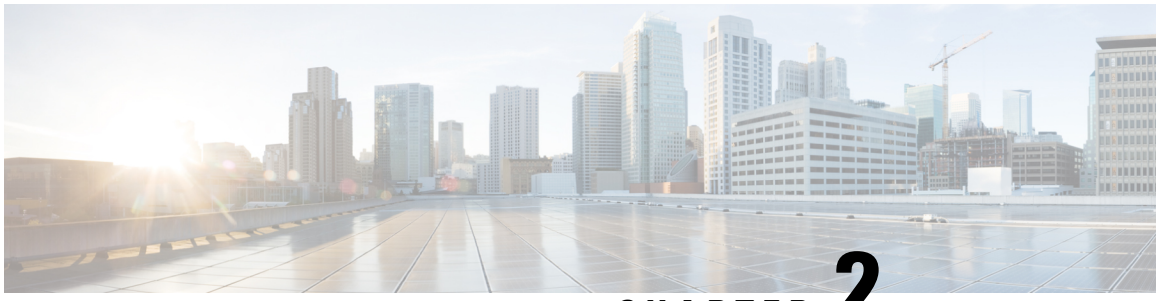
Table 1: Commands to Monitor ONT Upgrade Status

Command	Purpose
show ont upgrade-status {**image** | **xml**} {*ont_id_list* | **all**}	Displays information about ONT upgrade status. The upgrade status can be queried when the ONT is upgraded. The upgrade status includes version-loading progress, active finish, auto rebooting, success, and so on.

Configuration Example: Configuring ONT Upgrade Status

The following example shows how to configure the ONT upgrade status:

```
Device> enable
Device# load ont-image tftp inet 192.168.100.123 test.tar
Downloading application via TFTP...
Download application via TFTP successfully.
Device# load ont-image ftp inet 192.168.100.123 test.tar 123 123
Downloading application via TFTP...
Download application via TFTP successfully.
Device# configure terminal
Device(config)# ont upgrade auto-reboot 0/1/1
The ONT will reboot automatically after finishing the transmission of the ONT image, are
you sure(y/n)?[n]y
Config success: 1, failed: 0.
The ONT is upgrading, please wait.
Device(config)# show ont upgrade-status image 0/1/1
ONT    Active-version  Inactive-version  Status
0/1/1  C01R544V00B09   C01R544V00B07     success
Total entries: 1.
```



CHAPTER 2

ONT Reboot

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- Configure ONT Reboot, on page 5
- Configuration Example: Configuring ONT Reboot, on page 6

Overview of ONT Reboot

The ONT Reboot feature allows you to remotely reboot an ONT. AN ONT that is registered and online only can be rebooted. Rebooting the ONT interrupts the service of the ONT.

Configure ONT Reboot

To configure ONT reboot, perform this procedure.

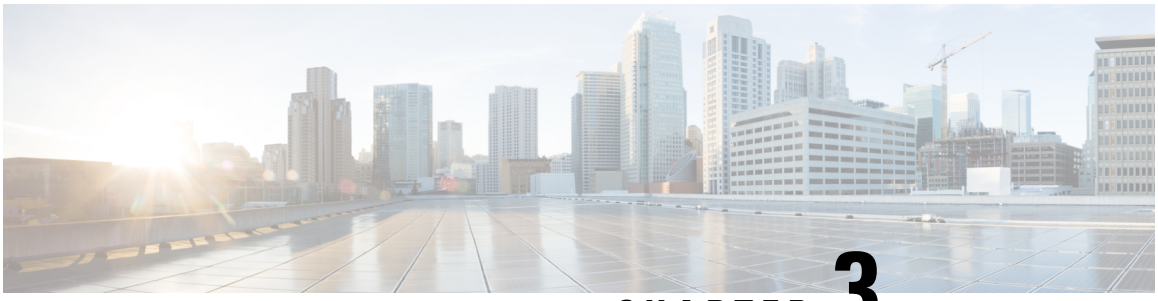
Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont reboot** *ont_id* **Example:** `Device(config)# ont reboot 0/1/1`	Reboots the ONT. *ont_id*: The ONT ID. The format in string.

Configuration Example: Configuring ONT Reboot

The following example shows how to configure ONT reboot:

```
Device> enable
Device# configure terminal
Device(config)# ont reboot 0/1/1
Are you sure you want to proceed with the system reboot(y/n)?[n]y
Successfully reboot the ONT.
```



CHAPTER 3

ONT Activation and Deactivation

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- Configure ONT Activation or Deactivation, on page 7
- Configuration Example: Activating or Deactivating ONT, on page 8

Overview of ONT Activation and Deactivation

The ONT Activation and Deactivation feature allows you to activate or deactivate ONTs.

Configure ONT Activation or Deactivation

To configure ONT activation or deactivation, perform this procedure.

Note The ONT will go offline when it is deactivated.

Procedure

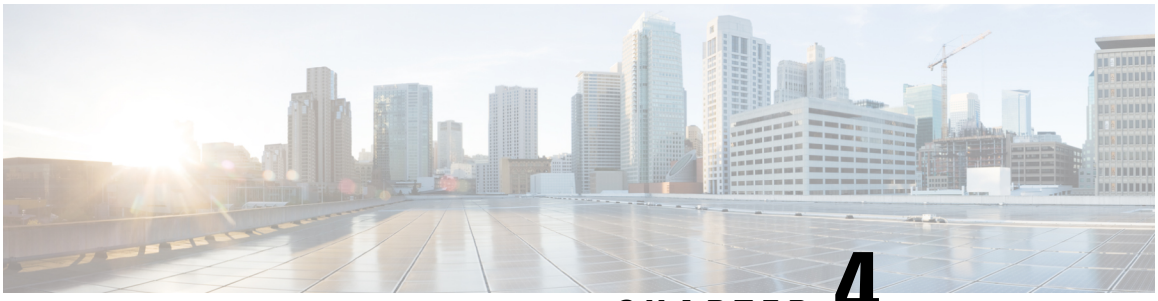
	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont** {**active** | **deactive**}*ont_id_list* **Example:** `Device(config)# ont active 0/1/1`	Activates or deactivates the ONT. • **active**: Activates the ONT. • **deactive**: Deactivates the ONT. • *ont_id_list*: The list of ONT IDs.

	Command or Action	Purpose
		Note You can view the ONTs that are deactivated in the *Discovery* list.

Configuration Example: Activating or Deactivating ONT

The following example shows how to activate or deactivate ONT:

```
Device> enable
Device# configure terminal
Device(config)# ont active 0/1/1
Config success: 1, failed: 0.
Device(config)# ont deactive 0/1/1
Config success: 1, failed: 0.
```



CHAPTER 4

ONT Information Management

- Overview of Information Management, on page 9
- Monitor ONT Information Management, on page 9
- Configuration Example: Monitoring Information Management, on page 10

Overview of Information Management

The ONT Information Management feature displays information about ONT, such as ONT description, ONT version, ONT statistics, ONT port number, and ONT MAC address table.

Monitor ONT Information Management

Use the following commands to monitor ONT information management.

Table 2: Commands to Monitor ONT Information Management

Command	Purpose
show ont description {*ont_id_list* | **interface gpon** *interface_list*}	Displays ONT description.
show ont version interface gpon{*interface_list* | **all**}	Displays ONT version.
show ont statistics *ont_id* {**port** *port_id* | **gem**{ **broadcast** | **multicast** | **unicast** *gem_index*} | **traffic** }	Displays statistical information about ONT.
show ont port-status *ont_id* { **port** *port_id* **| catv-port***catv-port-id* **| pots-port** *pots-port-number*}	Displays status information of the ONT port.
show ont mac-address-table {*mac_address* | *ont_id* | **interface gpon** {*interface_num* | **all**} }	Displays information about ONT MAC address table.

Configuration Example: Monitoring Information Management

The following example shows how to view ONT description:

```
Device> enable
Device# configure terminal
Device(config)# show ont description 0/1/1
ONT    SN             Description
0/1/1  GPON-20170803  test1
Total entries: 1.

Device(config)# show ont description interface gpon 0/1
ONT    SN             Description
0/1/1  GPON-20170803  test1
0/1/2  GPON-16403656  test2
0/1/3  GPON-20171122  test3
Total entries: 3.
```

The following example shows how to view ONT version:

```
Device(config)# show ont version interface gpon all
ONT    SN             Software-version             Firmware-version
0/1/1  GPON-20170803  C01R544V00B06/C01R544V00B07  S40-400
0/1/2  GPON-16403656  V1.00/V1.00                  G72210001
0/1/3  GPON-20171122  C18R541V00B04/C18R541V00B01  V1.0
Total entries: 3.
```

The following example shows how to view ONT statistics.

```
Device(config)# show ont statistics 0/6/1 traffic
Discarded frames       :0
Upstream frames       :0
Upstream bytes         :4043664
Downstream frames     :0
Downstream bytes      :0
Up traffic (kbps)        :37
Down traffic (kbps)      :0
```

The following example shows how to monitor information management:

```
Device> enable
Device# configure terminal
Device(config)# show ont description 0/1/1
ONT    SN             Description
0/1/1  GPON-20170803  test1
Total entries: 1.

Device(config)# show ont description interface gpon 0/1
ONT    SN             Description
0/1/1  GPON-20170803  test1
0/1/2  GPON-16403656  test2
0/1/3  GPON-20171122  test3
Total entries: 3.
```

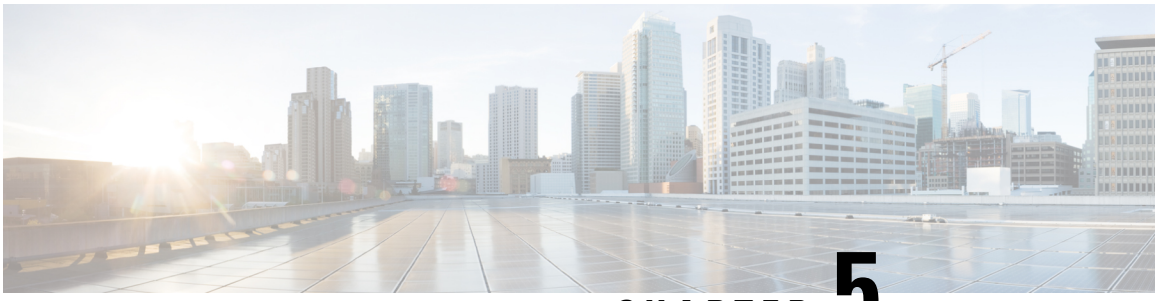
```
Device(config)# show ont version interface gpon all
ONT    SN             Software-version             Firmware-version
0/1/1  GPON-20170803  C01R544V00B06/C01R544V00B07  S40-400
0/1/2  GPON-16403656  V1.00/V1.00                  G72210001
0/1/3  GPON-20171122  C18R541V00B04/C18R541V00B01  V1.0
Total entries: 3.

Device(config)# show ont statistics 0/6/1 traffic
Discarded frames       :0
Upstream frames       :0
Upstream bytes         :4043664
Downstream frames     :0
Downstream bytes      :0
Up traffic (kbps)        :37
Down traffic (kbps)      :0

Device(config)# show ont mac-address-table 0/1/1
MAC-Address     VID  ONT-ID  SN             ID/GEM
00:00:00:00:00:11  2    0/1/1   GPON-173a00f1  1/256
00:0a:5a:46:b3:66  2    0/1/1   GPON-173a00f1  1/256
Total entries: 2.
```

The following example shows how to view an ONT MAC address table:

```
Device(config)# show ont mac-address-table 0/1/1
MAC-Address     VID  ONT-ID  SN             ID/GEM
00:00:00:00:00:11  2    0/1/1   GPON-173a00f1  1/256
00:0a:5a:46:b3:66  2    0/1/1   GPON-173a00f1  1/256
Total entries: 2.
```



CHAPTER 5

ONT Optical Parameter

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- How to Configure ONT Optical Parameter, on page 13
- Configuration Example: Configuring ONT Optical Parameter, on page 15

Overview of ONT Optical Parameter

The ONT Optical Parameter feature allows you to configure thresholds of the optical transmit (TX) and receive (RX) parameter of an ONT. When the received and transmitted optical power of the ONT is not within the threshold, an optical alarm is generated.

Note You should configure an alarm profile to set the threshold for the optical TX and RX power.

You should also reference the alarm profile to the line profile for the alarm profile to take effect.

How to Configure ONT Optical Parameter

The following sections provide configuration information about ONT optical parameters.

Configure an Alarm Profile

To configure an alarm profile, perform this procedure.

Note

- After the alarm profile is referenced by the line profile, modifying the alarm profile will cause the ONT to go online again.
- When the alarm profile is referenced by the line profile, the alarm profile cannot be deleted directly.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile alarm** **Example:** `Device(config)# deploy profile alarm`	Enters alarm profile configuration mode.
Step 4	**aim** {*index_num* [**name** *name*] | **name** *name*} **Example:** `Device(deploy-profile-alarm)# aim 5`	Creates the alarm profile aim. • *index_num*: The index of the template. The range is from 0 to *M*, where *M* is the maximum number of supported ONTs. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	**optical power rx threshold** {**high** *rx_power* | **low** *rx_power*} **Example:** `Device(deploy-profile-alarm-5)# optical power rx threshold high -10`	Configures the threshold of the RX optical power. *rx_power*: The power rx threshold. The power value must be a multiple of 0.5 and unit value in dBm. The range is from 0 to 127.
Step 6	**optical power tx threshold** {**high** *tx_power* | **low** *tx_power*} **Example:** `Device(deploy-profile-alarm-5)# optical power tx threshold high 10`	Configures the threshold of the RX optical power. *rx_power*: The power rx threshold. The power value must be a multiple of 0.5 and unit value in dBm. The range is from 0 to 127.
Step 7	**active** **Example:** `Device(deploy-profile-alarm-5)# active`	Activates the rule.

Reference an Alarm Profile to a Line Profile

To reference an alarm profile to a line profile, perform this procedure.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile line** **Example:** `Device(config)# deloy profile line`	Enters line profile configuration mode.
Step 4	**aim** {*index_num* [**name** *name*] | **name** *name*} **Example:** `Device(deploy-profile-line)# aim 5`	Creates the line profile aim. • *index_num*: The index of the template. The range is from 0 to *M*, where *M* is the maximum number of supported ONTs. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	**alarm profile refer** {*index_num* | **name** *name*} **Example:** `Device(deploy-profile-line-5)# alarm profile refer 1`	Refers the alarm profile to the line profile.
Step 6	**active** **Example:** `Device(deploy-profile-line-5)# active`	Activates the rule.

Configuration Example: Configuring ONT Optical Parameter

The following example shows how to configure an alarm profile:

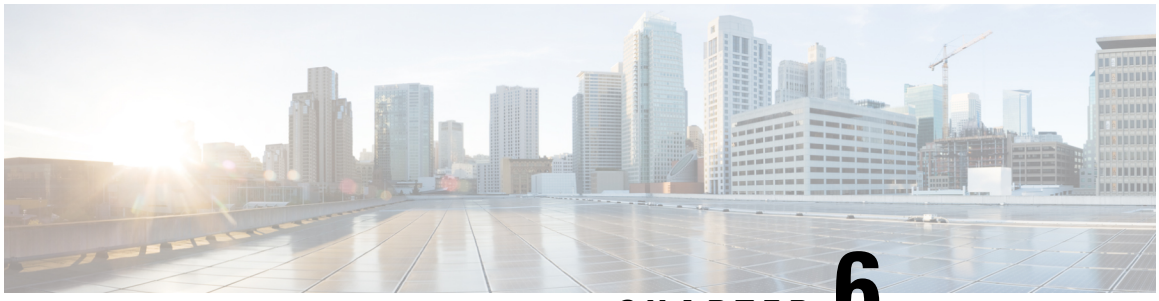
```
Device> enable
Device# configure terminal
Device(config)# deploy profile alarm
Device(deploy-profile-alarm)# aim 1
Device(deploy-profile-alarm-1)# optical power rx threshold low -30 high -3
Device(deploy-profile-alarm-1)# optical power tx threshold high 5 low 0
Device(deploy-profile-alarm-1)# active

Device(deploy-profile-alarm)# deploy profile line
Device(deploy-profile-line)# aim 1
```

```
Device(deploy-profile-line-1)# alarm profile refer 1
Device(deploy-profile-line-1)# active
```

The following example shows how to reference an alarm profile to a line profile:

```
Device(deploy-profile-alarm)# deploy profile line
Device(deploy-profile-line)# aim 1
Device(deploy-profile-line-1)# alarm profile refer 1
Device(deploy-profile-line-1)# active
```



CHAPTER 6

ONT Log Management

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- How to Configure Log Management, on page 17
- Monitor ONT Logging, on page 20
- Configuration Example: Configuring ONT Logging, on page 20

Overview of ONT Log Management

The ONT Log Management feature records information related to an ONT, such as the registration status and the port status. If the ONT registration status is abnormal, an alarm is raised. You can view the cause of the alarm by checking the log.

You can configure the following log management settings.

- Buffer logs: Configuring buffer logs saves the ONT logs to a buffer. Log buffering is enabled by default.
- Monitor logs: Configuring monitor logs saves the ONT logs to a console or a Telnet terminal. By default, log monitoring is disabled and logs are output to a buffer.
- Log prefixes: Configuring log prefixes adds an ONT ID or serial number prefixes to the logs. Log prefixing is enabled by default.
- Log timestamps: Configuring log timestamping adds a timestamp to the logs. The default added timestamp is the ONT uptime duration.

How to Configure Log Management

The following sections provide configuration information about log management.

Configure an ONT Buffer Log

To configure an ONT buffer log, perform this procedure.

Note ONT log buffering is enabled by default.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	[**no**] **ont-logging buffer** {*ont_id_list* | **all**} **Example:** `Device(config)# ont-logging buffer 0/1/1`	Enables ONT log buffering: • *ont_id_list*: The list of ONT IDs. The format is in string. The string length range is from 1 to 256. • **all**: All ONTs. Use the **no ont-logging buffer** {*ont_id_list* | **all**} command to disable this feature.
Step 4	**clear ont-logging buffer** {*ont_id_list* | **all**} **Example:** `Device(config)# clear ont-logging buffer all`	(Optional) Clears the ONT logging buffer function. • *ont_id_list*: The list of ONT IDs. The format is in string. The string length range is from 1 to 256. • **all**: All ONTs.

Configure an ONT Monitor Log

To configure an ONT monitor log, perform this procedure.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	[**no**] **ont-logging monitor** {*monitor_num* | **all**} { *ont_id_list* | **all**} **Example:** `Device(config)# ont-logging monitor all all`	Enables the ONT logging monitor function. • *monitor_num*: The range is from 0 to 5, where 0 is the console and 1 to 5 is the telnet terminal. • *ont_id_list*: The list of ONT IDs. The format is in string. The string length range is from 1 to 256.

	Command or Action	Purpose
		• **all**: All ONTs. Use the **no ont-logging monitor** {*monitor_num* | **all** } { *ont_id_list* | **all**} command to disable this feature.

Configure an ONT Log Prefix

To configure an ONT log prefix, perform this procedure.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	[**no**] **ont-logging prefix** {**ontid** | **sn**} **Example:** `Device(config)# ont-logging sn ontid`	Enables the ONT log prefixes. • **ontid**: ONT ID • **sn**: Serial number of ONT. Use the **no ont-logging prefix** { **ontid** | **sn** } command to disable this feature.

Configure an ONT Timestamp

To configure an ONT timestamp, perform this procedure.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont-logging timestamps** {**uptime** | **notime** | **datetime**}	Enables the ONT log timestamps.

	Command or Action	Purpose
	Example: `Device(config)# ont-logging timestamps datetime`	• **uptime**: The ONT uptime duration. • **notime**: No timestamp. • **datetime**: The ONT with date and time information.

Monitor ONT Logging

Use the following commands to monitor ONT logging

Table 3: Commands to Monitor ONT Logging

Command	Purpose
show ont-logging	Displays information about ONT log.
show ont-logging buffer {*ont_id_list* | **all**}	Displays information about ONT logging buffer.

Configuration Example: Configuring ONT Logging

The following example shows how to configure ONT logs:

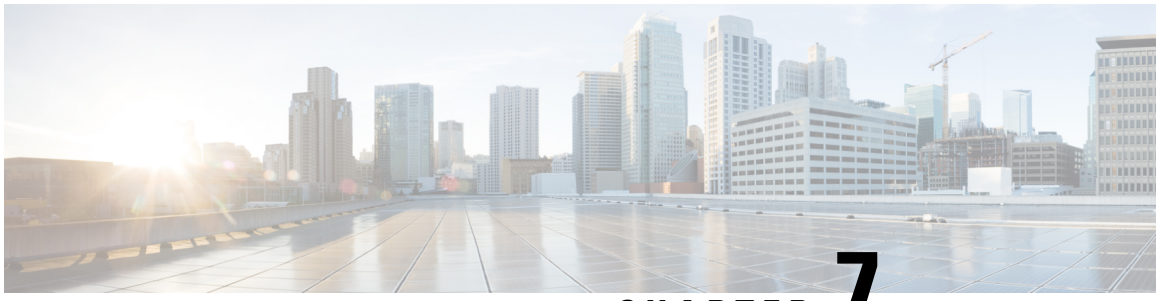
```
Device> enable
Device# configure terminal
Device(config)# ont-logging
Device(config)# ont-logging buffer all
Device(config)# ont-logging monitor 0 all
Device(config)# ont-logging prefix ontid sn
Device(config)# ont-logging timestamps datetime
```

The following example shows how to view ONT logs:

```
Device(config)# show ont-logging
logging state: on
logging timestamps: datetime
logging prefix: ontid:on; sn:on
logging buffer: 0/1/1-0/16/128
logging monitor:
 0: 0/1/1-0/16/128
 1: off
 2: off
 3: off
 4: off
 5: off

Device(config)# show ont-logging buffer 0/1/4
Sep 12 10:01:09 0/1/4 GPON-012bd318: offline, reason: LOFI.
Sep 12 10:01:08 0/1/4 GPON-012bd318: LOAMi on.
Sep 12 10:01:08 0/1/4 GPON-012bd318: LOFi on.
Sep 12 09:40:21 0/1/4 GPON-012bd318: eth port 2 los on.
```

```
Sep 12 09:40:21 0/1/4 GPON-012bd318: eth port 1 los on.
Sep 12 09:40:14 0/1/4 GPON-012bd318: online.
Device(config)# clear ont-logging buffer 0/1/4
Device(config)# show ont-logging buffer 0/1/4
```



CHAPTER 7

Additional ONT Configurations

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- How to Configure the ONT, on page 24

Overview of Additional ONT Configurations

The following sections provide information about the additional configurations that can be performed on an ONT.

Maximum MAC

The maximum MAC functionality allows you to configure the dynamic MAC address learning limit on an ONT interface.

Ethernet User-Network Interface (UNI) Bandwidth Egress

The Ethernet User-Network Interface (UNI) bandwidth egress functionality allows you to configure the egress bandwidth limit of an Ethernet interface on an ONT.

Local Switching

The local switching functionality allows you to enable local switching on an ONT Ethernet interface. This feature manages the Layer 2 isolation between the Ethernet interfaces.

Ethernet UNI Speed and Duplex

The Ethernet UNI speed and duplex functionality allows you to configure the Ethernet interface rate and duplex mode on an ONT.

Ethernet or CATV UNI Shut Down

The Ethernet or CATV UNI shutdown functionality allows you to shut down an Ethernet port or a CATV port on an ONT.

Range Compensation

The range compensation functionality allows you to reduce ONT ranging errors. Because of design differences in the ONT chip, the EQD0 reference value is different for each ONT ranges.

If the EQD0 reference value is used as the default to measure the physical distance between an ONT and an OLT, inaccurate ranging might occur. Setting an ONT range compensation value reduces the EQD0 reference value error and makes the ONT ranging accurate.

ONT Vendor ID

You can configure a vendor ID for an ONT to limit the number of ONT registrations. Only those ONT devices with a configured vendor ID are allowed to register. If the ONT vendor ID doesn't match the configured vendor ID, the ONT will not be registered.

Use the **show ont-find list interface gpon all** command to see the configured vendor ID for the ONTs.

How to Configure the ONT

The following sections provide additional configuration information on the ONT.

Configure Maximum MAC

To configure maximum MAC, perform this procedure.

Note Modifying and activating the line profile template will cause the ONT that references the template to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile line** **Example:** `Device(config)# deploy profile line`	Enters line profile configuration mode
Step 4	**aim** {*index_num* [**name** *name*] | **name** *name*} **Example:**	Creates the line profile aim.

	Command or Action	Purpose
	`Device(config-line-profile)# aim 5`	• *index_num*: The index of the template. The range is from 0 to *M*, where *M* is the maximum number of supported ONTs. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	[**no**] **local mac-address-table max-mac-count** *num* [**port** *port_id*] **Example:** `Device(config-line-profile-5)# local mac-address-table max-mac-count 3`	Configures the ONT maximum MAC count. • *num*: The maximum dynamic MAC address learned. The value range is from 1 to 255. • *port_id*: The ONT Ethernet port ID. The value range is from 1 to 24. Use the **no local mac-address-table max-mac-count** *num* [**port** *port_id*] to disable this feature.
Step 6	**active** **Example:** `Device(config-line-profile-5)# active`	Activates the configuration.

Configure ONT Ethernet UNI Bandwidth Egress

To configure ONT Ethernet UNI bandwidth egress, perform this procedure.

Note Modifying and activating the line profile template will cause the ONT that references the template to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile line** **Example:** `Device(config)# deploy profile line`	Enters line profile configuration mode.
Step 4	**aim** {*index_num* [**name** *name*] |**name** *name*}	Creates the line profile aim.

	Command or Action	Purpose
	Example: `Device(config-profile-line)# aim 6`	• *index_num*: The index of the template. The range is from 0 to *M*, where *M* is the maximum number of supported ONTs. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	[**no**] **local bandwidth egress port** *port_id* **cir** *cir* **cbs** *cbs* **pir** *pir* **pbs** *pbs* **Example:** `Device(config)# local bandwidth egress port 3 cir 200 cbs 70 pir 1024 pbs 90`	Configures the ONT bandwidth egress. • **port** *port_id*: The ONT Ethernet port. The value range is from 1 to 24. • **cir** *cir* : The committed information rate, in kbps. The value range is from 64 to 1024000. • **cbs** *cbs* : The committed burst size, in KB. The value range is from 2 to 32000. • **pir** *pir* : The peak information rate, in kbps. The value range is from 64 to 1024000, where the PIR requirement is greater than or equal to CIR. • **pbs** *pbs*: The peak burst size, in KB. The value range is from 2 to 32000. Use the **no local bandwidth egress port** *port_id* command to disable this feature.

Configure Local Switching

To configure ONT local switching, perform this procedure.

Note Modifying and activating the line profile template will cause the ONT that references the template to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 3	**deploy profile line** **Example:** `Device(config)# deploy profile line`	Enters line profile configuration mode.
Step 4	**aim** {*index_num* [**name** *name*] | **name** *name*} **Example:** `Device(config-profile-line)# aim 5`	Creates the line profile aim. • *index_num*: The index of the template. The range is from 0 to *M*, where *M* is the maximum number of supported ONTs. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	[**no**] **local switch** **Example:** `Device(config-profile-line-5)# local switch`	Enables ONT local switching. Use the **no local switch** command to disable the ONT local switching.
Step 6	**active** **Example:** `Device(config-profile-line-5)# active`	Activates the configuration.

Configuring the ONT Ethernet UNI Speed and Duplex

The following sections provide configuration information on ONT Ethernet UNI speed and duplex.

Configure ONT Ethernet UNI Speed and Duplex (Globally)

To configure ONT Ethernet UNI speed and duplex globally, perform this procedure.

Note Modifying and activating unique profile aim will cause the ONT that references the profile to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont neg-mode speed** *speed* **duplex** *duplex_mode* **port** *port_id*	Configures ONT speed and duplex.

	Command or Action	Purpose
	Example: `Device(config)# ont neg-mode speed 10 duplex half port 2`	• *speed*: The ONT Ethernet port rate mode in Mbps. The options are : • **10** • **100** • **1000** • **auto** • *duplex_mode*: The ONT Ethernet port duplex mode. The options are: • **full** • **half** • **auto** • *port_id*: The ONT Ethernet port. The value range is from 1 to 24.

Configure ONT Ethernet UNI Speed and Duplex (Locally)

To configure ONT Ethernet UNI speed and duplex locally, perform this procedure.

Note Modifying and activating the unique profile template will cause the ONT that references the profile to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile unique** **Example:** `Device(config)# deploy profile unique`	Enters unique profile configuration mode
Step 4	**aim** {*ont_id* [**name** *name*] | **name** *name*} **Example:**	Creates the unique profile aim. • *ont_id*: The ONT ID.

	Command or Action	Purpose
	`Device(config-profile-unique)# aim 0/1/1`	• *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	**local neg-mode speed** *speed* **duplex** *duplex_mode* **port** *port_id* **Example:** `Device(config-profile-unique-0/1/1)# local neg-mode speed 10 duplex half port 2`	Configures Ethernet speed and duplex. • *speed*: The ONT Ethernet port rate mode, in Mbps. The options are: • **10** • **100** • **1000** • **auto** • *duplex_mode*: The ONT Ethernet port duplex mode. The options are: • **full** • **half** • **auto** • *port_id*: The ONT Ethernet port. The value range is from 1 to 24.
Step 6	**active** **Example:** `Device(config-profile-unique-0/1/1)# active`	Activates the configuration.

Configuring the ONT Ethernet or CATV UNI Shutdown

The following sections provide configuration information on ONT Ethernet or CATV UNI shutdown.

Configure ONT Ethernet or CATV UNI Shutdown Operation (Globally)

To configure ONT Ethernet or CATV UNI shutdown globally, perform this procedure.

Note Modifying and activating the unique profile template will cause the ONT that references the profile to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable**	Enables privileged EXEC mode.

	Command or Action	Purpose
	Example: `Device> enable`	Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	[**no**] **ont shutdown** *ont_id* **port** *port_id* **Example:** `Device(config)#`	Configures ONT shutdown. • *ont_id*: The ONT ID. • *port_id*: The ONT Ethernet port ID. The value range is from 1 to 24. Use the **no ont shutdown** *ont_id* **port** *port_id* to disable this feature.

Configure ONT Ethernet or CATV UNI Shutdown Operation (Locally)

To configure ONT Ethernet or CATV UNI shutdown locally, perform this procedure.

Note Modifying and activating the unique profile template will cause the ONT that references the profile to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile unique** **Example:** `Device(config)# deploy profile unique`	Enter unique profile configuration mode.
Step 4	**aim** {*ont_id* [**name** *name*] | **name** *name*} **Example:** `Device(config-profile-unique)# aim 0/1/1`	Creates the unique profile aim. • *ont_id*: The ONT ID. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.

	Command or Action	Purpose
Step 5	[**no**] **local shutdown** {**port** *port_id* |**catv-port** *catv_port_id*} **Example:** `Device(config-profile-unique-0/1/1)# local shutdown port 2`	Configures the ONT shutdown configuration. • *port_id*: The ONT Ethernet UNI. The value range is from 1 to 24. • *catv_port_id*: The ONT RF interface ID. The value range is from 1 to 4. Use the **no local shutdown** {**port***port_id* | **catv-port** *catv_port_id* } to disable this feature.
Step 6	**active** **Example:** `Device(config-profile-unique-0/1/1)# active`	Activates the configuration.

Configure Range Compensation

To configure range compensation, perform this procedure.

Note Modifying and activating the unique profile template will cause the ONT that references the template to go online again.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**deploy profile unique** **Example:** `Device(config)# deploy profile unique`	Enters unique profile configuration mode.
Step 4	**aim** {*ont_id* [**name** *name*] | **name** *name*} **Example:** `Device(config-profile-unique)# aim 0/1/1`	Creates the unique profile aim. • *ont_id*: The ONT ID. • *name*: The name of the template. The format is string. The string length range is from 1 to 128.
Step 5	[**no**]**local ranging-balance** { **decrease** | **increase**} *distance*	Configures ONT range compensation.

	Command or Action	Purpose
	Example: `Device(config-profile-unique-0/1/1)# local ranging-balance increase 10`	*distance*: The ONT ranging compensation value, in meters. The value range is from 1 to 10000. Use the **no local shutdown** {**port** *port_id* | **catv-port** *catv_port_id* } to delete the ONT range compensation.
Step 6	**active** **Example:** `Device(config-profile-unique-0/1/1)# active`	Activates the configuration.

Configure ONT Vendor ID

To configure a vendor ID for an ONT, perform the following procedure.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ont vendor-id** *vendor-id*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ont vendor-id** *vendor-id* **Example:** `Device(config)# ont vendor-id GPON`	Configures a vendor ID for an ONT, to register on the OLT. The *vendor-id* is a four-bytes string. You can see the registered vendor IDs in the output of the **show ont-find list interface gpon all** command.