Additional ONT Configurations

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.