

EPON OLT FD1108S CLI User Manual

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1 Overview

1.1 Introduction

This document is for those who perform all tasks for the FD1108S once it has been successfully installed. Users of this Guide should understand EPON technology and have experience configuring EPON devices.

C-Data OLT FD1108s system could support inband and outband network management mode and EMS network management based on SNMP.

The user can use several different network interfaces to do network management, such as those listed below:

- SNMP Management
- CLI Management

This manual introduce CLI configuration function of EPON OLT.

In the initial setup step of OLT, there are two ways based on CLI management to login system:

- Terminal Emulation of CONSOLE port (RJ-45)
- Telnet of management port (RJ-45)

1.2 Command Explanations in each Section

Commands are usually presented in the following ways:

- Tables for specific functions or features that include important parameters
- Specific commands that are part of examples
- A table at the end of each Section that includes all commands and descriptions of all parameters.

1.3 Command Presentation in Examples

When a command is presented in an example, it follows the exact syntax and parameter values that match the

example configuration. If a command is very long, a (->) is used to note the command continues on the next line.

1.4 Command Syntax

The syntax rules for a Command and its parameters use the following conventions throughout this document:

- Blackface letter indicates command itself or command keyword
- “< >” The text inside it is the required parameters
- [] = Optional The text inside it is the optional parameters
- | = Option (OR) The multiple items which are divided are multi-select required parameters, indicating that must select one of them.
- “<x-y>” Valus rang from x to y. One is selected.

1.5 Editing Functions, Keystrokes, and Abbreviations

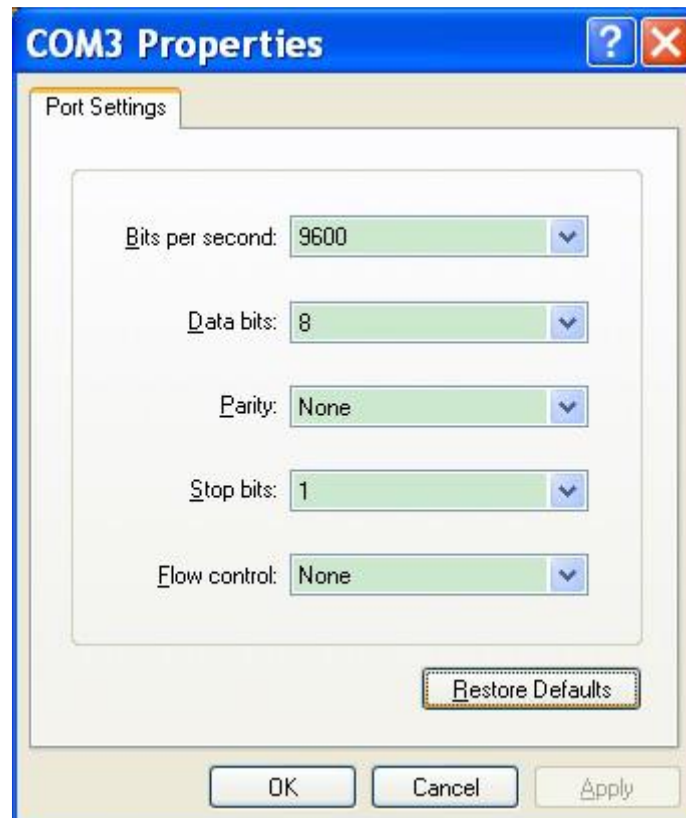
The product supports line editing, line recall, and abbreviations, so that command line input and editing can be done very quickly once command syntax and the line editing commands are learned.

Action	Key Sequence
Move cursor within command line	left and right arrow
Delete character to left of cursor	[Delete] or [Backspace]
Clear command line	[Ctrl/U]
Recall previous command in command history	CTRL/P or up arrow
Recall next command in command history	CTRL/N or down arrow
Automatically complete a partially entered command keyword	[Tab] or [Ctrl/I]

2 Cofiguration Preparation

2.1 Console Port Connection

There is a Console port in the front panel of Switch Control Card .The command line configuration interface is enabled via console port connecting to the NMS's superior terminal. Super terminal's basic configuration is as follows:



2.2 Network Connection

FD1108S support inband management (CAT5 connect to ge1-ge8 port) and outband management (CAT4 cable to management port).After Telnet to CLI interface ,we can manage the EPON products.

Default outband(inband) network management IP:192.168.1.100

3 CLI Command Mode

OLT CLI use the layered command structure (Command mode) . Every command mode provides subset of CLI command. The available CLI command depends on those command modes which have been activated currently.

3.1 User Login EPON CLI System

System provide two login accounts default as follows:

Username	Password
admin	admin
guest	Null

After you log in successfully, the following interface pops up :

```
admin login

Username:admin
Password:*****

Entry level 2(manager) successfully!

epon#

-----

guest login

Username:guest

Entry level 1(visitor)

epon>
```

3.2 CLI Command Help

When the command lines shows : epon> or epon#, user can input the configuration command to mange or inquire the configuration information .

OLT CLI command provides various help and shortcut keys. Next table lists main shortcut keys of obtaining help and methods in CLI command.

CLI command Help

Method	Function
Type "?" in any CLI command level	Show all available commands
Partial command+"? "	Show the initial command list of the specific character string(There is no space between the command and the question mark)
Command+Space +"? "	Show the completer syntax and the brief instruction of command
Partial command +<tab>	System will automatically complete the command or keyword
Ctrl-P" or the up arrow key ↑	Invoke the executed command previously.

For example 1:

epon#?

- debug - debug
- logout - exit the CLI system
- mac-address - ctrl-card dynamic mac address table management
- olt - configure OLT
- show - show system configuration
- storm-ctrl - configure storm-control
- swmode - set basic switch mode
- swport - enter switch port config mode
- system - configure system
- vlan - enter vlan config mode

For example 2:

epon# s?

- storm-ctrl
- swmode
- swport
- system
- show
- epon# s

For example 3:

epon#show + [?]

- mac-address - mac-address
- olt - show olt's configuration
- running-config - show current running-configuration
- storm-ctrl - show storm-control configuration
- swmode - show swmode
- swport - display port attribute information
- system - show system configuration
- vlan - show vlan configuration

3.3 Configure Terminal

The command mode allows the user to change equipment configuration. The changed configuration can be saved into OLT flash memory and used when system is started next time.

Configuration mode allows distributing and modifying each port separately for the specific parameters (Optical Line Terminal).

For example1: epon# swport ge1
System prompt is epon(GE-1)#

For example2: epon# olt 1
System prompt is epon(olt-1)#

ONU configuration mode is the sub-mode of configuration command mode of olt, and is used to configure the logical port parameters of ONU

For example: epon(olt-1)# onu 60
System prompt is epon(olt-1/onu-60)#

4 System Management

4.1 Change system user and password

Command Grammar	epon# system user <old-password> <new-user> <new-password> <confirm-password>
Function	Change system user and password
<old-password>	Old password
<new-user>	New username
<new-password>	New password
<confirm-password>	Comfirm password

4.2 System Configuration File

Backup OLT Configuration File

Command Grammar	epon# system configurations backup olt <i><tftp-server></i>
Function	Backup OLT configuration File to PC, firstly, the tftp server should be ready.
<i><tftp-server></i>	Tftp server ip address, eg: 192.168.1.130

【Example】

Example 1: Backup OLT configuration file to PC:

<pre>epon# system configurations backup olt 192.168.2.133 Backup olt configurations file to host 192.168.2.133. Remote filename: olt_cfg_backup_20000101055726.tar.gz. epon#</pre>

Restore OLT configuration from PC

Command Grammar	epon# system configurations download olt <i><tftp-server></i> <i><filename></i>
Function	Restore OLT configuration from PC, firstly, the tftp server and configurefile should be ready.
<i><tftp-server></i>	Tftp server ip address, eg: 192.168.1.130
<i><filename></i>	The Configuration File. eg: olt_cfg_backup_20000101055726.tar.gz

【Example】

Example 1: Restore OLT configuration from PC:

<pre>epon# system configurations download olt 192.168.2.130 olt_cfg_backup_20000101063321.tar.gz Download olt configurations file from host 192.168.2.130. epon#</pre>

Backup ONU Configuration File

Command Grammar	epon# system configurations backup onu <i><ftp-server></i>
Function	Backup ONU configuration File to PC, firstly, the tftp server should be ready.
<i><ftp-server></i>	Tftp server ip address, eg: 192.168.1.130

【Example】

Example 1: Backup ONU Configuratin to PC:

```
epon# system configurations backup onu 192.168.2.130
Backup onu configurations file to host 192.168.2.130.
Remote filename: onu_cfg_backup_20000101060207.tar.gz.

epon#
```

Restore ONU Configuration File from PC

Command Grammar	epon# system configurations download onu <i><ftp-server></i> <i><filename></i>
Function	Restore ONU configuration from PC, firstly, the tftp server and configurefile should be ready.
<i><ftp-server></i>	Tftp server ip address, eg: 192.168.1.130
<i><filename></i>	The Configuration File. eg: olt_cfg_backup_20000101055726.tar.gz

【Example】

Example 1: Restore ONU configuration from PC:

```
epon# system configurations download onu 192.168.2.130
onu_cfg_backup_20000101060207.tar.gz
Download onu configurations file from host 192.168.2.130.

epon#
```

4.3 Configuration Management

Factory Default Configuration

Command Grammar	epon# system default
Function	Set the device back to factory default configuration. Remark: the device would reboot.

Save Configuration

Command Grammar	epon# system save <i><all></i> <i>or</i> <i><olt></i>
Function	Save device configuration.
<i><all></i>	Take this parameter will save all device, include all olt an all onu.
<i><olt></i>	Take this parameter only save olt configuration.

Show current running- configuration

Command Grammar	epon#show running-config <i><all></i> , <i><auth></i> , <i><olt></i> , <i><onu></i> <i>or</i> <i><swith></i>
Function	show current running-configuration
all	show current all running-configuration Include OLT and ONU
auth	show current auth running-configuration
olt	show OLT running-configuration
onu	show ONU running-configuration
swith	show current swith running-configuration

Show current startup-configuration

Command Grammar	epon#show startup-config <i><all></i> , <i><auth></i> , <i><olt></i> , <i><onu></i> or <i><swith></i>
Fuction	show current startup-configuration
all	show current all startup-configuration
auth	show current auth startup-configuration
olt	show olt startup-configuration
onu	show onu startup-configuration
swith	show current switch startup-configuration

Reboot System

Command Grammar	epon# system reboot
Function	Reboot OLT.

4.4 Sytem update firmware

system update OLT 's firmware

Command Grammar	system update firmware <i><firmware></i> tftp-server <i><ip></i>
Fuction	Sytem update olt's firmware Tftp server and firmware file should be ready
<i><firmware></i>	update system firmware
<i><ip></i>	tftp server IP address

upgrade all onu(s) by CTCS

Command Grammar	<code>system update onu <tftp-server> <file> <type></code>
Fuction	upgrade all onu(s) by CTC Tftp server and firmware file should be ready
<tftp-server>	tftp server IP address
<file>	image name
<type>	device type

4.5 Log Management

Backup Log

Command Grammar	<code>epon#system log system log backup <server-ip></code>
Function	Backup system log to PC, firstly, tftp server should be ready.
<server-ip>	Tftp server ip address, eg: 192.168.1.130

【Example】

Example 1: Backup system log to PC:

```
epon# system log backup 192.168.2.130
Backup local log file to host 192.168.2.130 successfully, remote filename:
log_backup_20000101002224.txt!
```

【Example】

Example 2: Show system all log:

```
epon# show system log all
```

Flush log

Command Grammar	epon# system log flush
Function	Flush all system log.

【Example】

Example 1: Flush system all log:

epon# system log flush
Flush log file successfully!
epon#

4.6 SNMP Management

SNMP Read Community

Command Grammar	epon# system snmp community read-only <community>
Function	Set SNMP Read Community.
< community >	Read Community, the string's length should not lenger than 16 chars. eg: public.

SNMP Write Community

Command Grammar	epon# system snmp community read-write <community>
Function	Set SNMP Write Community .
< community >	Write Community, the string's length should not lenger than 16 chars. eg: private.

Trap IP Configuration

Command Grammar	epon# system snmp trap-ip <i><index></i> <i><ip-addr></i>
Function	Set the SNMP Trap IP Address, could set up to 4 trap ip
<index>	index : 1-4。
<ip-addr>	IP Address. Eg: 192.168.1.130

4.7 Network Address Management

Command Grammar	epon# system ipconfig
Function	Configure the Network Address of inband and outband manage IP.

【Example】

Example 1: Show command parameter

```
epon#system ipconfig           // enter“? ”
<ip>                          - ip address, example: 192.168.0.233
<netmask>                      - netmask address, for example: 255.255.255.0
<gateway>                      - gateway
```

Network Parameter Configuration

Command Grammar	epon# system ipconfig <i><ip></i> <i><netmask></i> <i><gateway></i>
Function	Configure inband and outband management IP address netmask gateway。
< ip>	IP address. eg: 192.168.1.100
<netmask>	Netmask. eg: 255.255.255.0
< gateway >	Gateway. eg: 192.168.1.254

【Example】

Example 1: Configure the manage ip to 192.168.1.100, netmask to: 255.255.255.0, gateway to 192.168.1.254:

```
epon# system ipconfig 192.168.1.100 255.255.255.0 192.168.1.254
```

Example 2: Show the Network IP address Parameter

```
epon# show system ipconfig
ip      : 192.168.1.100
netmask : 255.255.255.0
gateway : 192.168.1.1
MNGMT-VID : 1
epon#
```

Management VLAN Configuration

Command Grammar	epon# system mgmt-vlan < vid>
Function	Configure the management vlan id.
< vid>	VLAN ID: 1~4094

4.8 configuration

Configure system time automatically by NTP

Command Grammar	epon# system date auto
Function	Configure system time automatically by NTP

Configure system time manually

Command Grammar	eepon# system date manual <time>
Function	Configure system time manually

<time>	Time format: YYYY.MM.DD-hh:mm:ss
---------------------	----------------------------------

【Example】

Example1: manually systime is 2015.12.12 10h:10m:10s

```
epon# system date manual 2015.12.12-10:10:10
```

4.9 show system configuration

Show system infor

Command Grammar	epon# show system infor
Function	show system infor

【Example】

Example1: show device system infor

```
epon# show system infor
Software Version   : 2.2.01s(Jan  9 2015)
Hardware Version   : Unknown
MAC                : e0-67-b3-00-00-00
Serial Number      : Unknown
System Time        :
System Temperature :
FAN[1]             : Normal
FAN[2]             : Normal
FAN[3]             : Normal
```

Show system ipconfig

Command Grammar	epon# show system ipconfig
Function	show ipconfig

【Example】

Example 1: show system ipconfig

```
epon# show system ipconfig
ip      : 192.168.1.100
netmask : 255.255.255.0
gateway : 192.168.1.1
MNGMT-VID : 1
```

Show system log

Command Grammar	epon# show system log <all> or <tail>
Function	show device system log
tail	show the tail of the log file
all	Show the all logs

【Example】

Example 1: show the tail of the log file

```
epon# show system log tail
01/01/00 00:44:42 Bridge Max Age : 30
01/01/00 00:44:49 Bridge Max Age must be less than or equal to twice the the
Bridge Forwarding Delay minus 1.1
01/01/00 00:44:49 Bridge Forwarding Delay : 20
01/01/00 00:44:54 Bridge Max Age must be less than or equal to twice the the
Bridge Forwarding Delay minus 1.
01/01/00 00:44:54 Bridge Forwarding Delay : 20
01/01/00 00:00:22 Receive from rstp bpdu handle message queue failed!
01/01/00 00:00:25 (cdtDeviceStateSet) Slot 1 olt 1~4 deregistered.
01/01/00 00:00:25 (cdtDeviceStateSet) Slot 1 olt 5~8 deregistered.
01/01/00 00:01:15 (cdtDeviceStateSet) Slot 1 olt 5~8 registered.
01/01/00 00:01:29 (cdtDeviceStateSet) Slot 1 olt 1~4 registered.
01/01/00 00:01:40 onu-1-1-25 (llid-0,mac-e0-67-b3-07-24-0c,ctc-30)online...
01/01/00 00:00:22 Receive from rstp bpdu handle message queue failed!
01/01/00 00:00:25 (cdtDeviceStateSet) Slot 1 olt 1~4 deregistered.
01/01/00 00:00:25 (cdtDeviceStateSet) Slot 1 olt 5~8 deregistered.
01/01/00 00:01:15 (cdtDeviceStateSet) Slot 1 olt 1~4 registered.
01/01/00 00:01:29 (cdtDeviceStateSet) Slot 1 olt 5~8 registered.
01/01/00 00:01:37 onu-1-1-25 (llid-0,mac-e0-67-b3-07-24-0c,ctc-30)online...
01/01/00 00:00:22 Receive from rstp bpdu handle message queue failed!
01/01/00 00:00:23 Receive from rstp bpdu handle message queue failed!
01/01/00 00:00:26 (cdtDeviceStateSet) Slot 1 olt 1~4 deregistered.
```

```
01/01/00 00:00:26 (cdtDeviceStateSet) Slot 1 olt 5~8 deregistered.
01/01/00 00:01:16 (cdtDeviceStateSet) Slot 1 olt 1~4 registered.
01/01/00 00:01:30 (cdtDeviceStateSet) Slot 1 olt 5~8 registered.
01/01/00 00:32:14 onu-1-1-25 (llid-0,mac-e0-67-b3-07-24-0c,ctc-30)online...
epon#
```

Show system memory

Command Grammar	epon# show system memory
Function	show system memory

【Example】

Example1: show system memory

```
epon# show system memory
      total      used      free      shared      buffers
Mem:   61428     25712     35716         0         0
-/+ buffers: 25712     35716
Swap:      0         0         0
```

Show system mgmt-vlan

Command Grammar	epon# show system mgmt-vlan
Function	show system mgmt-vlan

【Example】

Example 1: show system mgmt-vlan

```
epon# show system mgmt-vlan
system mgmt-vlan : 1
```

Show system snmp

Command Grammar	epon# show system snmp
Function	Show system snmp

【Example 】

Example 1: show system snmp

```
epon# show system snmp
Read-only community : public
Read-write community : private
```

5 Switch control card configuration

5.1 Storm Control

Enable/Disable Storm Control

Command Grammar	epon# storm-ctrl admin <state>
Function	Enable or Disable Storm Control function
<state>	Enable: Open the storm control function Disable: Close the storm control funcion

Storm Control Configuration

Command Grammar	epon# storm-ctrl type <type> rate <value>
Function	Configure the storm control parameter
<type>	By now, support the follow: bcast-mcast-dlf, broadcast multicast dlf broadcast-multicast broadcast-dlf multicast-dlf
<value>	The packet rate : 0-1000000(kbps)

5.2 Port manegemnet

enter switch port config mode

Command Grammar	epon# swport <port>
Function	enter switch port config mode
<port>	Switch port number ,<ge1-ge16>

【Example】

Example 1: Enter Sithch port ge1 config mode

```
epon# swport ge1
epon(GE-1)#
```

```
epon(GE-1)# ?      Enter“?”or “help”show the current directory :
admin              - enable or disable current port
admit-frame        - set port access frame type
auto-nego          - enable auto-nego
def-pri            - set port default priority
exit               - exit current mode
flow-ctrl          - set port flow control
learning           - configure switch port learning
pvid               - configure the PVID
rate-ctrl          - configure rate-control
speed              - configure the SPEED
Global command:
debug              - debug
logout             - exit the CLI system
show               - show system configuration
```

Port parameters

Enable current port

Command Grammar	epon(GE-1)# admin enable
Function	Configuration current port enable

Disable current port

Command Grammar	epon(GE-1)# admin disable
Function	Disable current port

Set port access frame type

Command Grammar	epon(GE-1)# admit-frame <type>
Function	set port access frame type
<type>	all: all of packet. tagged: only receive tag packet untagged:only receive untag packet .

Set port default priority

Command Grammar	epon(GE-1)# def-pri <priority>
Function	Configure the switch port default pvid, when switch port receive packet witch no tag, it will give the packet default pvid, that is the default 802.1p priority.
<priority>	Config priority ,valaue: <0-7>

Set port flow-ctrl function

Command Grammar	epon(GE-1)# flow-ctrl <admin>
Funcion	Configurate storm control

<admin>	disable: disable flow-ctrl function enable: enable flow-ctrl function
----------------------	--

Configure the pvid of port

Command Grammar	epon(GE-1)# pvid <pvid>
Function	Configure the pvid of port
<pvid>	Optional parameters: 0-4094。

Configure auto-nego of port

Command Grammar	epon(GE-1)# auto-nego
Function	Configure auto-nego of port

Configure the speed of port

Command Grammar	epon(GE-1)# speed <speed> duplex <duplex>
Function	Configure the speed of port
<speed>	Effective parameter; <10m 100m 1000m>
<duplex>	Optional parameters <full half>

Add vlan list of port

Command Grammar	epon(GE-1)# vlan add <vidlist> <tag>
Function	Add vlan list port and set up tag mode

<vidlist>	vlan id list,<Combination of 1~4094>
<tag>	Mark way is optional parameters, Given tag parameters is out of the packet with the tag The tag parameter default is out of the packet without the tag

【Example】

Example 1: create Vlan2-100 with the TAG TAG, create vlan101-200 without the TAG markup under the exchange ge1 port

```
epon(GE-1)# vlan add 2-100 tag
epon(GE-1)# vlan add 101-200
```

Delete the vlan list of port

Command Grammar	epon(GE-1)# vlan delete <vidlist>
Function	Delete the vlan list of port
<vidlist>	vlan id list,<Combination of 1~4094>

【Example】

Example 1: delete vlan 2-200 of ge1 pot

```
epon(GE-1)# vlan del 2-200
```

Show swport current configuration information

Command Grammar	epon# show swport ge1 attribute
Function	Show swport current configuration information

【Example】

Example 1:show swport current configuration of ge1 port information

```
epon# show swport ge1 attribute
                        GE-1 STATE
Link-State             : Link-down
Admin-State            : Enable
```

Flow-Control	: Disable
Speed-State	: 1000
Duplex-State	: Full
Learning	: Disable
Egress-Rate-Limit	: Disable
Ingress-Rate-Limit	: Disable
Priority	: 0
PVID	: 1

Configuration ingress-port rate

Command Grammar	epon(GE-1)# rate-ctrl ingress <rate>
Function	Configuration ingress-port rate
<rate>	0-1000000(kps)

Configuration egress-port rate

Command Grammar	epon(GE-1)# rate-ctrl egress <rate>
Function	Configuration engress-port rate
<rate>	0-1000000(kps)

5.3 Configure switch mode

Show vlan state

Command Grammar	epon#show swmode vlan
Function	Show vlan state

【Example】

Example 1: show swmode vlan :

```
epon# show swmode vlan
VLAN STATUS : Disable
```

Configure vlan enable/disable

Command Grammar	epon# swmode vlan <mode>
Function	Configuration
<mode>	Enable :based vlan Disable :disable vlan

5.4 MAC address management

Configure mac-address aging timeout

Command Grammar	epon# mac-address aging <timeout>
Function	Configure mac-address management timeout .
<timeout>	MAC aging time :range: 0-65535s

Show mac-address aging

Command Grammar	epon# show mac-address aging
Function	show mac-address-aging
<timeout>	MAC aging time :range: 0-65535s

5.5 Vlan Configuration management

Creat vlan

Command Grammar	epon# vlan <vlanid>
Function	Creat vlan and enter vlan config mode
< vlanid >	1-4094

【Example】

Example 1: Creat vlan100 and enter vlan100 config mode,

epon#vlan 100 epon(vlan-100)#

epon(vlan-100) # ? enter “ ? ” or “ help ” showing the current directory:

- delete** - delete vlan list
- exit** - exit current mode
- member** - add or delete member-port

Global command:

- debug** - debug
- logout** - exit the CLI system
- show** - show system configuration

Add vlan port member

Command Grammar	epon(vlan-100) # member add <member> <tag>
Function	add vlan member and set up tag
<member>	ge1-ge16
<tag>	Mark way is optional parameters, Given tag parameters is out of the packet with the tag The tag parameter default is out of the packet without the tag

【Example】

Example 1: add ge1,ge2 and ge3 as vlan100 member and set up tag, add ge4 and ge5 as vlan100 member and set up untag:

```
epon(vlan-100)#member ge1-ge3 tag
epon(vlan-100)#member ge4-ge5
```

Delete vlan port member

Command Grammar	epon(vlan-100)# member del <member>
Function	Delete vlan port member.
<member>	ge1-ge16.

Delete vlan

Command Grammar	epon(vlan-100)# delete <vlanList>
Function	Delete vlan.
<vlanlistt>	Delete vlan list, Valid values :the combination of 1-4094, Example : delete vlan 10,20,30 delete vlan 100-120 delete vlan 10,100-110,200

Show vlan configuration of vlan

Command Grammar	epon# show vlan <vlanId>
Function	Show vlan configuration of vlan
<vlanId>	all: show all current vlan configuration 。 1-4094: show current vlan-id configuration.

【Example】

Example 1: show all currnet vlan configuration:

```
epon# show vlan all
VLAN-1:
  GE-9   untagged
  GE-10  untagged
  GE-11  untagged
```


GE-12	untagged
GE-13	untagged
GE-14	untagged
GE-15	untagged
GE-16	untagged
GE-1	untagged
GE-2	untagged
GE-3	untagged
GE-4	untagged
GE-5	untagged
GE-6	untagged
GE-7	untagged
GE-8	untagged
VLAN-100:	
GE-3	tagged

5.6 Rstp configuration management

Enable/disable RSTP configuration

Command Grammar	epon# rstp <state>
Function	Enable/disable RSTP Function
<state>	enable:enable Rstp Function disable:disable Rstp Function

【Example】

Example 1: enable Rstp function

```
epon# rstp enable
Enable RSTP successful!
```

Example 2: disable Rstp function

```
epon# rstp disable
Disable RSTP successful!
```

Configure Rstp bridge maxage aging time

Command Grammar	epon# rstp bridge maxage <aging>
------------------------	----------------------------------

Function	Configure Rstp bridge maxage time
<aging>	Range: 6-40 It should be less than or equal to the maximum forward delay 2 times

【Example】

Example 1: if the forward delay is a maximum of 15 s, configuring the biggest aging time is 30s

```
epon# rstp bridge maxage 15
Configure RSTP max age successful!
```

Configure Rstp bridge delay time

Command Grammar	epon# rstp bridge fdelay <fdelay>
Function	Configure Rstp bridge delay time
<fdelay>	Range: 4-30s

【Examole】

Example 1:configuring Rstp bridge delay time is 15s

```
epon# rstp bridge fdelay 15
Configure RSTP forward delay successful!
```

Configure Rstp bridge prioprity

Command Grammar	epon# rstp bridge priority <prio>
Function	Configure Rstp bridge prioprity
<prio>	Range:p0-p65535

【Example】

example1: setting Rstp bring priority is 0

```
epon# rstp bridge priority p0
Configure RSTP bridge priority successful!
```

Configure max counts of Rstp packet per second

Command Grammar	epon# rstp hold-count <count>
Function	Configure max counts of Rstp packet per second
<count>	Range:1-10

【Example】

Example 1: Configure transmit 10 hold-counts of Rstp per second

epon# rstp hold-count 10 Configure RSTP transmit holle packet limit successful!
--

Configure Rstp port piority

Commad Grammar	epon# rstp port <protid> priority <prio>
Function	Configure Rstp port priority
<protid>	Range; ge1-ge16
<prio>	Value :p0,p16,p32,p48,p64,p80,p96,p112,p128,p144,p160,p176,p192,p208,p224,p240

【Examble】

Example 1: setting ge1 port priority is 0

epon# rstp port priority ge1 p0 GE(1)'s priority configuration successful!

Configure Rstp port path-cost

Command Grammar	epon# rstp port <protid> path-cost <pathcost>
Function	Configure Rstp port path-cost
<protid>	Port

<pathcost>	Port path cost
-------------------------	----------------

【Example】

Example 1: setting ge1 path-cost of Rstp is 2000

<pre>epon# rstp port ge1 path-cost 2000 GE(1)'s path cost configuration successful!</pre>

Configure Rstp edge-port

Command Grammar	epon# rstp port <protid> edgecfg <edge>
Function	Configure Rstp edge-port
<protid>	Switch port
<edge>	<p>edge: edge</p> <p>none-edge:none edge</p> <p>auto: Automatic negotiation</p> <p>Note: the edge of the port don't need after discarding - learning - forwarding steps, and direct conversion to the forwarding state, the rest of the ports need to pass the above process</p>

【example】

Example 1: setiing ge1 is edge of Rstp

<pre>epon# rstp port ge1 edgecfg edge GE(1)'s edge attribute configuration successful!</pre>
--

Example 2: setting ge1 is auto configuration

<pre>epon# rstp port ge1 edgecfg auto GE(1)'s edge attribute configuration successful!</pre>
--

Configure Rstp p2p port

Command Grammar	epon#rstp port <protid> p2pcfg <p2p>
------------------------	--------------------------------------

Function	Configure Rstp p2p port
<protid>	Switch port
<p2p>	Shared:: p2p ::p2p port auto: Automatic negotiation Note: p2p port to allow rapid transition to the forwarding state, shard port need through discarding - learning - forwarding steps forward to transition to the state

【Example】

Example: setting ge1 port is p2p port

<pre>epon# rstp port ge1 p2pcfg p2p GE(1)'s link type configuration successful!</pre>

Configure Rstp protocol version check

Command Grammar	epon#rstp port <protid> p2pcfg mcheck
Function	Configure Rstp protocol version check
<protid>	Switch port

【Example】

Example:1 Configure Rstp protocol version check

<pre>epon# rstp port ge1 mcheck GE(1) force version successful!</pre>

Show Rstp information

Command Grammar	epon#show rstp
Function	Show Rstp information
<protid>	Switch port

【Example】

Example 1: show Rstp information

```

epon# show rstp
RSTP Bridge Status:
RSTP Setting      :Enable
Bridge ID [PRI-MAC] :1-e0:67:b3:00:00:00
Bridge Hello Time  :2 sec
Bridge Max Age     :25 sec
Bridge Forward Delay :15 sec
Transmit Hold Count :10
Root Bridge ID     :1-e0:67:b3:00:00:00
Root Path Cost     :0
RSTP Port Status:
GE Mode Pri PathCost EdgeC EdgeO P2pC P2pO State Role
1 RSTP 1 2000 Auto Edge P2P P2P LinkDown
UNKNOWN
2 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
3 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
4 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
5 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
6 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
7 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
8 RSTP 128 20000 Auto NEdge Auto P2P LinkDown
UNKNOWN
Total 8 RSTP ports dumped.

```

5.7 Trunk configuration managemnet

Enter trunk config mode

Command Grammar	epon# trunk <tid>
Function	Enter trunk config mode
<tid>	Range:1-4

【Example】

Example 1: enter runk 1 config mode view

```
epon# trunk 1
epon(trunk-1)#
```

Add port of trunk member

Command Grammar	epon(trunk-1)# member add <member>
Function	Add trunk's member
<member>	Porttlist

【example】

Example 1 :add ge1-ge2 port of trunk 1 member

```
epon(trunk-1)# member add ge1-ge2
```

Delete port of trunk member

Command Grammar	epon(trunk-1)# member del <member>
Function	Delete port of trunk member
<member>	Portlist

【example】

example1: delete ge1-ge2 of trunk 1 member

```
epon(trunk-1)# member del ge1-ge2
```

Delete trunklist configuraion

Command Grammar	epon(trunk-1)# delete <trunkList>
Function	Delete trunklist configuration
<trunklist>	Range: 1-4

【Example】

Example1: delete list 1-2 configuration of trunklist

```
epon(trunk-1)# delete 1-2
```

Show trunk information

Command Grammar	epon# show trunk <trunkid>
Function	Show trunk information
<trunkid>	all: all of trunklist 。 1-4: Specify the trunk group information

【Example】

Example 1: show all trunklist information

```
epon# show trunk all
TRUNK-1 Member PORTS:
    GE-1
    GE-2
TRUNK-2 Member PORTS:
    GE-3
    GE-4
```

5.8 Rmon network monitoring and configuration

clear all ports statistics

Command Grammar	epon# rmon statistics clear-all
Function	Clear all ports statistics

Delete the specified port configuration information

Command Grammar	epon# rmon statistics <port>
Function	Delete the specified interface statistics

<port>	interface, With reference to the above 2.3
---------------------	--

【Example】

Example1: Delete the ge1 interface rmon statistics statistics

```
epon# rmon statistics clear ge1
```

rmon history configuration

Add rmon history configuration

Command Grammar	epon# rmon history add <port> <entry-number> <buckets-number> <interval> <owner>
Function	Rmon history configuration
<port>	Switch port
<entry-number>	History index, range:1-65535
<buckets-number>	History Record number, range 1-65535
<interval>	The time interval of history
<owner>	Belongs to user

【example】

Example 1: configue ge1 port rmon 's index is 1, inteval is 5 ,buckets-number is 5, owner is user1

```
epon# rmon history add ge1 1 5 5 user1
```

Delete rmon history configuration

Command Grammar	epon# rmon history del < entry-number >
Function	Delete rmon history configuration
<entry-number>	History infdex,range:1-65535

rmon event configuration

add rmon event configuration

Command Grammar	epon#rmon event add <entry-number> <description> <type> <owner>
Function	Add rmon event configuration
<entry-number>	Event index, range : 1-65535
<description>	Description information
<type>	none; no log and no trap log: Record the log information trap: Record the trap information log-trap:Record the log and trap information
<owner >	Belongs to user

【Example】

Example 1: add rmon event 100

```
epon# rmon event add 100 rmon-event log yx
```

delete rmon event

Command Grammar	epon#rmon event del <entry-number>
Function	Delete rmon event
<entry-number>	Range:1-65535

【Example】

Example 1: delete rmon event 100

```
epon# rmon even del 100
```

rmon alarm configuration

add rmon alarm configuration

Command Grammar	epon#rmon event alarm add <entry-number> <alarm-variable> <interval> <type> <rising-value> <rising-event> <falling-value> <falling-event> <owner>
Function	Add rmon alarm
<entry-number>	Range:1-65535
<alarm-variable>	Oid ,snmp oid
<interval>	Sampling interval
<typer >	delta: Refers to two time interval only absolute: Refers to achieve value within a specified period
<rising-value>	Range:2147483648 - +2147483647
<rising-event>	Rising event
<falling-value>	range: 2147483648 - +2147483647
<falling-event>	Falling event
<Owner>	owner

【Example】

Example 1: add alarm configuration that oid is 1.3.6.1.2.1.16.1.1.1.4.1 ,**interval** 5s **rising-value** 40000, Rissing-event is 1, **falling-event** 20000, falling-event is 1 ,**typer is absolute**

epon# rmon alarm add 1 1.3.6.1.2.1.16.1.1.1.4.1 5 absolute 40000 1 20000 1 yx

Delete rmon alarm configuration

Command Grammar	epon#rmon event alarm del<entry-number>
Function	Delete rmon alarm configuration
<entry-number>	Event index, range:1-65535

【Example】

Example1: delete rmon alarm 1

```
epon# rmon alarm del 1
```

Show rmon statistics information

Command Grammar	epon# show rmon statistics <port>
Function	Show rmon port statistics information
<port>	Device port

【Example】

Example 1: show rmon statistics ge1

```
pon# show rmon statistics ge1
      GE-1 Statistics:
etherStatsOctets      : 0           , etherStatsPkts      : 0
etherStatsBroadcastPkts : 0       , etherStatsMulticastPkts : 0
etherStatsUndersizePkts : 0       , etherStatsOversizePkts : 0
etherStatsFragments   : 0         , etherStatsJabbers    : 0
etherStatsCRCAAlignErrors: 0       , etherStatsCollisions : 0
etherStatsDropEvents  : 0
Packets received according to length:
64      : 0           , 65-127  : 0           , 128-255  : 0
256-511 : 0           , 512-1023 : 0           , 1024-1518 : 0
```

Show rmon history information

Command Grammar	epon# show rmon history <port>
Function	Show rmon history information about port
<port>	Switch port

【Example】

Example 1: show rmon history ge1

```
show rmon history ge1
```

```

HistoryControlEntry 100 owned by yx is VALID
Samples interface      : GE-1
Sampling interval     : 5(sec) with 5 buckets max
Sampled values of record 1 :
  dropevents          : 0           , octets           : 0
  packets             : 0           , broadcast packets : 0
  multicast packets   : 0           , CRC alignment errors : 0
  undersize packets   : 0           , oversize packets   : 0
  fragments           : 0           , jabbers            : 0
  collisions          : 0           , utilization         : 0
Sampled values of record 2 :
  dropevents          : 0           , octets           : 0
  packets             : 0           , broadcast packets : 0
  multicast packets   : 0           , CRC alignment errors : 0
    
```

show rmon event information

Command Grammar	epon# show rmon event <entry-number>
Function	Show rmon event information
<entry-number>	Event entry-number, 0 means all of event

【Example】

Example 1: show rmon event 1 information

```

epon# show rmon event 1
  EventEntry 1 owned by log is VALID
  Description : log
  Will cause log when triggered.
    
```

Show rmon eventlog information

Command Grammar	epon# show rmon eventlog <entry-number>
Function	Show rmon eventlog information
<entry-number>	Event entry-number ,0 means all of eventlog

【Example】

Example 1: show rmon eventlog 1

```
epon# show rmon eventlog 1
    logEntry 1 is VALID.
        Generates eventLog 1.1 at 01/01/00 00:31:25
        Description : The alarm formula defined in prialarmEntry 1,
                    less than(or =) 4000 with alarm value 0. Alarm sample type is
delta.
        Generates eventLog 1.2 at 01/01/00 03:13:25
        Description : The alarm formula defined in prialarmEntry 2,
                    less than(or =) 20000 with alarm value 0. Alarm sample type is
absolute.
```

Show rmon alarm information

Command Grammar	epon#show rmon alarm <entry-number>
Function	Show rmon alarm information
<entry-number>	Alarm entry-number, 0 means all of alarm

【Example】

Example 1: shshow all of alarm of rmon information

```
epon# show rmon alarm 0
    AlarmEntry 1 owned by yx is VALID
        Samples type          : absolute
        Variable      formula          :
1.3.6.1.2.1.16.1.1.1.4.15<etherStatsOctets.15>
        Sampling interval     : 10(sec)
        Rising threshold      : 40000(linked with event 1)
        Falling threshold     : 20000(linked with event 1)
        When startup enables  : risingOrFallingAlarm
        Latest value          : 0
```

5.9 Mirror port configuration management

Enable/disable mirror fuction

Command Grammar	epon# mirror admin <admin>
------------------------	----------------------------

Function	Enable/disable mirror function。
<admin>	enable:enable mirror fuction disable: disable mirror fuction

【Example】

Example 1: enable mirror function

```
epon# mirror admin enable
      Set switch mirror enable successful !
```

Example 2: disable mirror function

```
epon# mirror admin disable
      Set switch mirror disable successful !
```

Configure mirror source_port

Command Grammar	epon# mirror source_port <port> <type>
Function	Configure mirror source_port
<port>	Switch port
<tyoe>	none: soure_port have no set egress: the packet of out_flow ingress: the packet of in_flow full: packet both of out_flow and in_flow

【Example】

Example 1: configure ge1 ingress mirror

```
epon# mirror source_port ge1 ingress
      Set switch mirror source port: 1 successful!
```

Example 2: configure soure_port ge2 egress mirror

```
epon# mirror source_port ge2 egress
      Set switch mirror source port: 2 successful!
```

Example 3, configure ge3 both of out_packet and in_packet

```
epon# mirror source_port ge3 full
Set switch mirror source port: 3 successful!
```

Configure mirror dest_port

Command Grammar	epon# mirror dest_port <port>
Function	Configure mirror dest_port
<port>	Switch port

【Example】

Example 1: configure dest_port ge8

```
epon# mirror dest_port ge8
Set switch mirror destination port: 8 successful
```

Add/delete vlan source_port of in_packet

Command Grammar	epon# mirror vlan <operation> <vlan-id>
Function	Add/delete vlan source_port of in_packet
<operation>	add: add operation del: delete operation
<vlan-id>	Source port of the specified vlan Range:1-4094

【Example】

Example 1: add vlan 20 source_port of in_packet

```
epon# mirror vlan add 20
```

Example 2: delete vlan 20 source_port of in_packet

```
epon# mirror vlan del 20
```


Show mirror information

Command Grammar	epon# show mirror
Function	Show mirror information

【Example】

Example 1: show mirror information

```
epon# show mirror
===== SWITHC MIRROR CONFIG
=====
Admin : enable
destnationPort : ge8
sourceIngressPorts : ge2 ge3
sourceEgressPorts : ge1 ge3
sourceVlan :
```

6 OLT Management

6.1 OLT basic configure management

Enter OLT Management

Command Grammar	epon#olt <oltID>
Function	Enter olt configure mode
<oltID>	Pon ID : 1-8。

【Example】

Example 1: enter olt's first pon configure mode:

```
epon#olt 1
epon(olt-1)#
```

epon(olt-1)# ?

- acl - configure olt level acl
- admin - enable or disable this PON
- auth - configure authentication mode

- exit** - exit current mode
- mac-address-table** - configure mac-address-table
- onu** - configure onu
- optical** - olt optical diagnose
- p2p** - configure p2p
- tpid** - tpid
- Global command:**
- debug** - debug
- logout** - exit the CLI system
- show** - show system configuration

Enable/disable OLT port

Command Grammar	epon(olt-1)#admin <enable / disable>
Function	enable/disable OLT.
<enable>	Enable OLT.
<disable>	Disable OLT.

Long light checking Function

Configuration all of onu about long light checking Function

Command Grammar	epon(olt-1)# optical lao
Function	ON optical tests under all the ONU, ONU luminous fault to kick off

Configure the specified onu about long checking function

Command Grammar	epon(olt-1)# optical lol <llid_1> <llid_2> <llid_3>
Function	Light tests specified under the PON ONU, luminous fault to kick off

Configure p2p Function

Command Grammar	epon(olt-1)# p2p <enable / disable>
Function	Enabel/disable OLT P2P function, when enable this function,each onu register to this pon can reach each other without uplink swicht
<eable>	Enabel P2P
<disable>	Disable P2P

Configure out-tpid Function

Command Grammar	epon(olt-1)# tpid out-tpid <tpid>
Function	Configure acl default tpid
<tpid>	0x8100, 0x9100, 0x88a8

6.2 OLT ACL Configure

Delete One ACL

Command Grammar	epon(olt-1)# acl <aclld> delete
Function	Delete the aclid's acl
<aclld>	Acl id number : <1-40>

【Example】

Example 1: delege olt 1 acl 1:

```
epon(olt-1)# acl 1 delete
Delete ACL 1 successfuly.
```

Delete Current OLT All ACL

Command Grammar	epon(olt-1)# acl delete
Function	Delete current olt's all acl

【Example】

Example 1: delete olt1's all acl:

epon(olt-1)# acl delete Delete ACL 1 successfully.

Add OLT ACL

Command Grammar	epon(olt-1)# acl <aclId> rule <direction> <precedence> matching "matching string" action "action string"
Function	Add one acl in current olt
<aclId>	value: <1-40>
<direction>	Acl direction: <upstream downstream>
<precedence>	Acl priority: <4-7>
matching string	String to match, format is : "proto=12 dst-port=34". Support the parameters as blow: [dst-mac src-mac] <xx:xx:xx:xx:xx:xx> [tag-num] <0 1 2 more> [top-vid inner-vid] <vid vidL-vidH>, vid:1~4094 [top-8021p inner-8021p] <8021p 8021pL-8021pH>, 8021p:0~7 [eth-type] <0~65535> [dscp] <0~63> [proto] <0~65535> [dst-ip src-ip] <x.x.x.x> [dst-port src-port] <0~65535>
action string	Acton string, format as "8021p 7 dscp 63". Support the parameters as blow:

	<pre>[cos] <0~7> [8021p] <0~7> [dscp] <0~63> [fwd] <deny nni <1~4> pon <1~4> llid <1~128> [rate] cir <> cbs <> pir <> pbs <> [top-vlan inner-vlan] <pop push vid <1~4094> swap vid <1~4094></pre>
--	---

【Example】

Example 1 : Filtering the upstream frame of destination MAC address is 00:00:00:00:00:02

```
epon(olt-1)# acl 1 r u 4 m "dst-mac=00:00:00:00:00:02" a "fwd deny"
```

Example 2 : Filtering the downstream of destination MAC address is 00:00:00:00:00:01, tagged is with external VLAN 4094:

```
epon(olt-1)# acl 2 r d 4 m "dst-mac=00:00:00:00:00:01" a "top-vlan push vid 4094"
```

Example 3: Filtering the upstream frame with vlan 100, tagged it with external VLAN 200:

```
epon(olt-1)# acl 3 r u 4 m "top-vid=100" a "top-vlan push vid 200"
```

Example 4: Filtering the upstream frame of destination IP address is 198.19.1.2, tagged it with external vlan 1000:

```
epon(olt-1)# acl 1 r u 4 m "dst-ip=198.19.1.2" a "top-vlan push vid 1000"
```

Example 5: Filtering the upstream frame of destination port is port-2, tagged it with external vlan 1000:

```
epon(olt-1)# acl 1 r u 4 m "dst-port=2" a "top-vlan push vid 1000"
```

6.3 OLT MAC Management

Configure OLT MACAge Time

Command Grammar	epon(olt-1)# mac-address-table aging-time <aging-time>
Function	Configure current olt's mac age time
<aging-time>	Age time: <0~65535> sec, when configure age time to 0, the mac will not ageout

【Example】

Example 1: configure current olt's age time to 200s:

```
epon(olt-1)# mac-address-table aging-time 200
Set slot 1 olt 1 bridge cfg successfully!
```

Flush current olt's mac table list

Command Grammar	epon(olt-1)# mac-address-table flush
Function	Flush current olt's mac table list

Enable OLT MAC Learning function

Command Grammar	epon(olt-1)# mac-address-table learning enable
Function	Enable current olt's mac learning function

Disable OLT MAC Learning Function

Command Grammar	epon(olt-1)# mac-address-table learning disable
Function	Disable current olt's mac learning function

Enable MAC Move

Command Grammar	epon(olt-1)# mac-address-table move enable
Function	Enable mac move

Disable MAC Move

Command Grammar	epon(olt-1)# mac-address-table move disable
Function	Disable mac move

6.4 OLT Auth

Disable OLT Auth

Command Grammar	epon(olt-8)# auth disable-auth
Function	Disable auth function

Add/Delete/Show Whitelist

Add white member

Command Grammar	epon(olt-8)# auth whitelist add <onu>
Function	Add white member. It will enable the Auth function when first add black member
<onu>	ONU-MAC, format: 00-01-02-AB-CD-EF

Example 1: add our witch MAC e0-67-b3-00-00-06 to whitelist:

epon(olt-8)# auth whitelist add e0-67-b3-00-00-06 Add ONU (e0-67-b3-00-00-06) to slot 1 olt 8 whitelist successfully.
--

Delete white member

Command Grammar	epon(olt-8)# auth whitelist delete <onu>
Function	Delete white member

<onu>	ONU-MAC, format: 00-01-02-AB-CD-EF。
--------------------	-------------------------------------

Example 1: move onu with MAC e0-67-b3-00-00-06 out from whitelist:

```
epon(olt-8)# auth whitelist delete e0-67-b3-00-00-06
01/01/00 04:13:02 onu-1-8-1 (ctc-30) offline...
Delete ONU (e0-67-b3-00-00-06) from slot 1 olt 8 whitelist successfully.
```

Show whitelist

Command Grammar	epon# show olt <oltld> auth whitelist
Function	Show whitelist
<oltld>	Pon ID : 1-8

Example 1: show whitelist:

```
epon(olt-8)# show olt 8 auth whitelist
whitelist onu mac:
e0-67-b3-07-d4-78
e0-67-b3-00-00-06
00-a1-02-01-30-d8
Total is 3.
```

Add/Delete/Show Blacklist

Add black member

Command Grammar	epon(olt-8)# auth blacklist add <onu>
Function	Add black member. It will enable the Auth function when first add black member
<onu>	ONU-MAC, format: 00-01-02-AB-CD-EF。

Example 1: add a black member that mac is e0-67-b3-00-00-06:

```
epon(olt-8)# auth blacklist add e0-67-b3-00-00-06
Add ONU (e0-67-b3-00-00-06) to slot 1 olt 8 blacklist successfully.
```

Delete Black Member

Command Grammar	epon(olt-8)# auth blacklist delete <onu>
Function	Delete black member
<onu>	ONU-MAC, format: 00-01-02-AB-CD-EF

Example 1: move onu witch 00-67-b3-00-00-06 out from blacklist:

```
epon(olt-8)# auth blacklist delete e0-67-b3-00-00-06
Delete ONU (e0-67-b3-00-00-06) from slot 1 olt 8 blacklist successfully.
```

Show blacklist

Command Grammar	epon# show olt <oltd> auth blacklist
Function	Show blacklist
<oltd>	Pon ID : 1-8

Example 1: show blacklist:

```
epon(olt-8)# show olt 8 auth blacklist
blacklist onu mac:
e0-67-b3-00-00-06
e0-67-b3-07-d4-78
00-a1-02-01-30-d8
Total is 3.
```

OLT hybrid Auth Mode Configure

Add hybrid mode loid account

Command Grammar	epon(olt-8)# auth ctc-auth hybrid add-loid <loid> password <password>
Function	Add hybrid mode loid account
<loid>	{MAX 24 Chars}
<password>	{MAX 12 Chars}

Example 1: add a hybrd mode loid account:

```
epon(olt-8)# auth ctc-auth hybrid add-loid cdt password cdt
```

Delete a hybrid mode loid account

Command Grammar	epon(olt-8)# auth ctc-auth hybrid delete-loid <loid> password <password>
Function	Delete hybrid mode loid account
<loid>	{MAX 24 Chars}
<password>	{MAX 12 Chars}

Example 1: delete a hybrid mode loid account:

```
epon(olt-8)# auth ctc-auth hybrid delete-loid cdt password cdt
```

OLT Hybrid LOID Auth Mode Configure

Add loid account

Command Grammar	epon(olt-8)# auth ctc-auth loid add <loid> password <password>
Function	Add LOID account
<loid>	{MAX 24 Chars}
<password>	{MAX 12 Chars}

Example 1: add one loid account, name: cdt, password:cdt:

```
epon(olt-8)# auth ctc-auth loid add cdt password cdt
```

Delete loid account

Command Grammar	epon(olt-8)# auth ctc-auth loid delete <loid> password <password>
Function	Delete LOID account
<loid>	{MAX 24 Chars}
<password>	{MAX 12 Chars}

Example 1: delete a loid account:

```
epon(olt-8)# auth ctc-auth loid delete cdt password cdt
```

OLT MAC Auth Mode Configure

Command Grammar	epon(olt-8)# auth mac
Function	Enable OLT MAC Auth Mode

6.5 Configure packet_filter of OLT

Packet_filter of OLT about DHCP function

Command Grammar	epon(olt-1)# packet-filter dhcp <admin>
Function	Filter upstream flow about dhcp servers packet
<admin>	enable:enable packet-filter dhcp disable: disable packet-filter dhcp

【Example】

Example 1: enable dhcp packet_filter function of olt

```
epon(olt-1)# packet-filter dhcp
```

EOC MME packet-filter function

Command Grammar	epon(olt-1)# packet-filter eoc_mme <admin>
Function	EOC MME packet filter
<admin>	enable:enable eoc_mme function disable: disable eoc_mme function

【Example】

Example 1: enable eoc_mme packet-filter function

```
epon(olt-1)# packet-filter eoc_mme enable
```

6.6 Configure trap alarm and message alarm function of ONU

Configure message alarm about ONU off the electricity

Command Grammar	epon(olt-1)# alarm onuDyingGasp <admin>
Function	ONU off the electricity ,it can print GASP message on the console
<admin>	enable: enable message fuction. disable: disable message function.

【Example】

Example 1: Configure GASP message function, ONU off the electricity ,it can print GASP message on the console

```
epon(olt-1)# alarm onuDyingGasp enable
```

Configure trap alarm about ONU off the electricity

Command Grammar	epon(olt-1)# alarm onuDyingGasp <admin>
Function	ONU off the electricity,it can send trap message about GASP
<admin>	enable:enable send trap of onu Dying Gasp! disable: disable send trap of onu Dying Gasp!.

【Example】

Example 1;after ONU off the electricit , TRAP alarm will be sended to SNMP management software

```
epon(olt-1)# alarm onuDyingGaspTrap enable
```

6.7 Configure QinQ function

Add QinQ configuration

Command Grammar	epon(olt-1)# qinq enable <qinq-vid> raw-vlan-id-inbound <vlan-list>
Function	Configure QinQ function
<qinq-vid>	Outbond vlan

<vlan-list>	inbound vlan list
--------------------------	-------------------

【Example】

Example 1: setting QinQ configuration that inbound vlan_list is 50-90 and setting outbound vlan is 100

```
epon(olt-1)# qinq enable 100 raw-vlan-id-inbound 50-90
```

Delete QinQ configuration

Command Grammar	epon(olt-1)# qinq enable <qinq-vid> raw-vlan-id-inbound <vlan-list>
Function	delete QinQ f configuration
<qinq-vid>	Outbond vlan
<vlan-list>	inbound vlan list

【Example】

Example 1: delete QinQ configuration that inbound vlan_list is 50-90 and setting outbound vlan is 100

```
epon(olt-1)# qinq enable 100 raw-vlan-id-inbound 50-90
```

6.8 Show olt configuration information

Show olt attribute information

Command Grammar	epon# show olt <oltID> attribute
Function	Show olt attribute information
<oltID>	Pon port ID, range:1-8.

【Example】

Example1: show olt attribute information:

```
epon(olt-1)# show olt 1 attribute
Slot 1 olt 1 attributes:
  Fw Version      : 4.2.7.58
  Cfg Version     : 1.7.3.14
  Loader Version  : cefabeba
```

LLID Support	: 64
LLID Registered	: 3
LLID Online	: 3

Show olt optical information

Command Grammar	epon# show olt <oltID> optical
Function	Show olt optical information.
<oltID>	Pon port ID, range:1-8

【Example】

Example1: show olt optical information

epon# show olt 1 optical	
Slot 1 olt 1 optical informations:	
Temperature	: 45.28 (C)
Voltage	: 2.30 (V)
Current	: 1.23 (mA)
Tx Power	: -6.45 (dBm)
Rx Power	: 0.00 (dBm)

Show olt online-onu information

Command Grammar	epon# show olt <oltID> online-onu
Function	Show olt online-onu information.
<oltID>	Pon port ID, range:1-8.

【Example】

Example1: show olt online-onu information:

epon(olt-1)# show olt 1 online-onu				
onuld	mac	type	CTC-Ver	distance
onu-03	e0:67:b3:00:00:06	FD104HC	30	6m
onu-10	00:a1:02:01:30:d8	FD111H	20	6m
onu-11	e0:67:b3:07:d4:78	FD104H	21	6m

Show olt acl information

Command Grammar	epon# show olt <oltID> acl
Function	Show olt acl information.
<oltID>	Pon port ID, range:1-8.

【Example】

Example1: show olt acl information:

```
epon(olt-1)# show olt 1 acl
===== SLOT 1 OLT 1 ACL 1 =====
Direction      : upstream
Precedence     : 4
Matching string : "dscp=63 "
Action string  : "dscp=0 "
```

Show olt auth mode information

Command Grammar	epon# show olt <oltld> auth mode
Function	Show olt auth mode information
<oltld>	Pon port ID , range:1-8

Example1 : show olt auth mode information :

```
epon# show olt 8 auth mode
Slot 1 olt 8 current auth-mode is disable-auth.
```

Show olt port staus information

Command Grammar	epon(olt-1)# show olt <oltld> admin
Function	Show olt port staus information

<oltld>	Pon port ID , range:1-8
----------------------	-------------------------

【Example】

Example1:show olt port staus

<pre>epon(olt-1)# show olt 1 admin Slot 1 olt 1 admin status: Enable.</pre>

Show olt alarm information

Command Grammar	epon(olt-1)# show olt <oltld> alarm
Function	Show olt alarm information
<oltld>	Pon port ID , range:1-8。

【Example】

Example1 : show olt ararm information

<pre>epon# show olt 1 alarm Onu Power Alarm : Disable Onu Power Alarm Trap : Disable</pre>
--

Show olt learning-mac information

Command Grammar	epon(olt-1)# show olt <oltld> learning-mac <onu>
Function	Show olt learning-mac information
<oltld>	Pon port ID , range:1-8。
<onu>	Don't pick up parameters:show mac address of all port With parameters :show mac address of specified port

【Example】

Example1 : show mac address of all port .

```
epon# show olt 1 learning-mac 25
===== SLOT 1 OLT 1 ONU 25 MAC Address Table =====
Index   MAC Address           ONU   VID   Aging(s)
```

Show olt p2p information

Command Grammar	epon# show olt <oltid> p2p
Function	Pon port ID, range:1-8.
<oltid>	Pon port ID, range:1-8.

【Example】

Example1: show olt p2p information

```
epon# show olt 1 p2p
Slot 1 olt 1 p2p status: Enable
```

Show olt packet-filter information

Command Grammar	epon# show olt <oltid> packet-filter <type>
Function	Show olt packet-filter information
<oltid>	Pon port ID, range:1-8.

【Example】

Example1: show olt packet-filter information

```
epon# show olt 1 packet-filter dhcp
===== SLOT 1 OLT 1 Packet Filter=====
DHCP : enable
```

Show olt tpid out-tpid

Command Grammar	show olt <oltid> tpid out-tpid
Function	Show olt tpid out-tpid

<oltid>	Pon port ID, range:1-8.
---------	-------------------------

7 ONU Management

7.1 Show ONU Basic Information

Show Online ONU

Command Grammar	epon# show olt 7 online-onu
Function	Use this command in any mode can check to the specified PON port of the Online-ONU.

【Example】

1: show online-onu

epon# show olt 7 online-onu				
onuld	mac	type	CTC-Ver	distance
onu-12	e0:67:b3:00:00:04	FD112GM	30	6m
onu-13	e0:67:b3:00:00:14	FD114GM	30	6m
onu-14	e0:67:b3:07:14:04	FD101HC	30	6m
onu-23	e0:67:b3:07:18:02	FD104HC	30	6m

Show ONU Version

Command Grammar	epon# show olt 7 onu <onuid> ctc sn
Function	Show online-onu version.
<onuid>	Designate online-onu onuid with value range from 1-64.

【Example】

1: show onu version

epon# show olt 7 onu 12 ctc sn	
onu model	: 0x3131326d

```
onu base-MAC      : e0-67-b3-00-00-04
onu hardware Ver: V1.0
onu software Ver: V2.0.2
```

Show ONU Capabilities

Command Grammar	epon# show olt 7 onu <onuid> ctc capabilities
Function	Show online-onu capabilities.
<onuid>	Designate online-onu onuid with value range from 1-64.

Show ONU Optical

Command Grammar	epon# show olt 7 onu <onuid> ctc optical
Function	Show online-onu optical.
<onuid>	Designate online-onu onuid with value range from 1-64.

7.2 ONU Management Mode

Command Grammar	epon(olt-7)# onu <onuid>
Function	enter ONU management mode to configure ONU.
<onuid>	designate onuid with valid value 1-64.

【Example】

1: enter onu 1 managemnet mode:

```
epon(olt-7)#onu 1
epon(olt-7/onu-1)#
```

- | | |
|---------------------------|--|
| epon(olt-7/onu-1)# | input "?" to show the following directory: |
| catv | - enable or disable CATV |
| ctc | - CTC configuration mode |
| default | - restore to default setting |
| deregister | - deregister current onu |

exit	- exit current mode
link	- enter link configure mode
pon	- configure onu PON
pots	- configure VOIP port
save	- save current ONU configuration
uni	- configure UNI
Global command:	
debug	- debug
logout	- exit the CLI system
show	- show system configuration

7.3 ONU Basic Operation and Management

Reboot ONU

Command Grammar	epon(olt-7/onu-1)# ctc reboot
Function	reboot ONU.

Deregister ONU

Command Grammar	epon(olt-7/onu-1)# deregister
Function	deregister ONU.

Configure ONU FEC

Command Grammar	epon(olt-7/onu-1)# ctc fec <oper>
Function	Configure ONU fec.
<oper>	value <enable/disable> enable: enable ONU FEC function disable: disable ONU FEC function

Restore ONU to Default Settings

Command Grammar	epon(olt-7/onu-1)# default
Function	restore ONU to default settings.

【Notes】

This command will delete all configuration of the ONU, restored to the factory default configuration, and will automatically restart ONU.

Configure ONU Sys Management IP

Command Grammar	epon(olt-2/onu-4)># ctc mng-ip <ip> <netmask> <gateway> <CVLAN> <SVLAN>
Function	configure onu sys management ip.
Parameters	<p><ip> - example: 192.168.12.122</p> <p><netmask> - example: 255.255.255.0</p> <p><gateway> - example: 192.168.0.1</p> <p><CVLAN> - 0-4094</p> <p><SVLAN> - 0-4094</p>

Save Current ONU Configuration

Command Grammar	epon(olt-7/onu-1)# save
Function	Save current onu configuration.

7.4 Configure ONU IGMP

ONU IGMP Global Configuration

clear-all-multicast-ctrl-group

Command	epon(olt-7/onu-1)# ctc igmp clear-all-multicast-ctrl-group
----------------	---

Grammar	
Function	clear all multicast ctrl group.

Configure ONU IGMP fast-leave

Command Grammar	epon(olt-7/onu-1)# ctc igmp fast-leave <oper>
Function	Configure ONU igmp fast-leave function.
<oper>	value <enable/disable> enable: enable igmp fast-leave disable: disable igmp fast-leave

Configure ONU IGMP Mode

Command Grammar	epon(olt-7/onu-1)# igmp mode < mode >
Function	configure ONU igmp mode.
<mode>	valid value: < gmp-mld-snooping controllable-igmp-mld igmp-snooping-only controllable-igmp pass-through> Some of the parameters may not support, the default is gmp-mld-snooping.

Configure ONU UNI Port IGMP

configure igmp group

Command Grammar	epon(olt-5/onu-7/uni-1)# ctc igmp max-group <groups>
Function	configure igmp group.
<groups>	designate number of igmp groups with valid value <0-255>.

Configure igmp vlan

Command Grammar	epon(olt-5/onu-7/uni-1)# ctc igmp vlan-list < vlanTagList>
Function	configure igmp vlan.

<vlanTagList>	valid value: 1-4094, or null
----------------------------	------------------------------

Configure vlan tag

Command Grammar	epon(olt-5/onu-7/uni-1)# ctc igmp tag-handle <oper>
Function	configure igmp vlan tag or untag.
< Parameters >	value: not-strip-vlan-tag strip-vlan-tag switch

7.5 Enter ONU Link Mode

enter ONU link mode

Command Grammar	epon(olt-7/onu-1)# link <linkID>
Function	enter ONU link mode.
<linkID>	valid value: <1-16>

Configure ONU Link Upstream SLA

Command Grammar	epon(olt-7/onu-1/link-1)# sla upstream <fix> <cir> <pir> <weight>
Function	configure ONU LINK upstream speed limit.
<fix>	valid value: <0~950000>Kbps
<cir>	valid value: <1~950000>Kbps
<pir>	valid value: <512~1000000>Kbps
<weight>	valid value: <1~20>

Configure ONU Link Downstream SLA

Command Grammar	epon(olt-7/onu-1/link-1)# sla downstream <pir> <burst> <weight>
Function	configure ONU LINK downstream speed limit.
<pir>	valid value: <512~1000000>Kbps
<burst>	valid value: <128~16383>*256Byte
<weight>	valid value: <0~15>

Configure ONU Link Acl

Command Grammar	epon(olt-7/onu-1/link-1)# acl <Aclid> rule <direction> <precedence> matching <matching string> action <action string>
Function	configure ONU link acl rule.
<aclid>	valid value: 1-8
<direction>	parameters: upstream downstream
<precedence	valid value: <4-7>
<matching string	parameters: [dst-mac] <xx:xx:xx:xx:xx:xx>. [src-mac] <xx:xx:xx:xx:xx:xx>. [tag-num] <0 1 2 more>. [top-vid] <vid vidL-vidH>, vid:1~4094. [inner-vid] <vid vidL-vidH>, vid:1~4094. [top-8021p] <8021p 8021pL-8021pH>, 8021p:0~7. [inner-8021p] <8021p 8021pL-8021pH>, 8021p:0~7. [eth-type] <0~65535>. [dscp] <0~63>. [proto] <0~65535>. [dst-ip] <x.x.x.x>. [src-ip] <x.x.x.x>. [dst-port] <0~65535>. [src-port] <0~65535>.
<actionstring	parameters: [cos] <0~7>. [8021p] <0~7>.

	<pre>[dscp] <0~63>. [fwd] deny. [rate] cir <cir> cbs <cbs> pir <pir> pbs <pbs>, cir, pir: <0~1000000>Kpbs. cbs, pbs: <0~4095>KB [top-vlan] pop. [top-vlan] push vid <1~4094>. [top-vlan] swap vid <1~4094>. [inner-vlan] pop. [inner-vlan] push vid <1~4094>. [inner-vlan] swap vid <1~4094>.</pre>
--	--

【Example】

1: configure ONU link acl 1 rule

```
epon(olt-7/onu-1/link-1)#acl 1 rule upstream 4 matching dst-mac=00:11:11:11:11:11 acti
on fwd=deny
```

7.6 Enter ONU Uni Port Management Mode

Command Grammar	epon(olt-7/onu-1)# uni <uni->
Function	enter the ONU uniport management mode to configure the ONU uni parameter.
< uni>	designate ONU uni port with valid value <1-24>.

【Example】

1: enter the ONU uni port 1 management mode:

```
epon(olt-7/onu-1)#uni 1
epon(olt-7/onu-1/uni-1)#
```

epon(olt-7/onu-1/uni-1)# ? input "?" to show the following directory:

- ctc** - **ctc management mode**
- exit** - **exit current mode**
- Global command:**
- debug** - **debug**
- disable** - **entry guest level**
- logout** - **exit the CLI system**
- show** - **show system configuration**

Configure ONU Uni Port Parameters

Show ONU Uni port information

Command Gamma	epon(olt-7/onu-1/uni-1)> show olt 7 onu 1 uni 1 ctc attribute
Function	Using the command in any mode,can display the current ONU uni port parameter properties.

【Example】

1: show ONU uni port 1 information:

epon(olt-7/onu-1/uni-1)> show olt 7 onu 1 uni 1 ctc attribute	
ONU-7/1 UNI-1 Attibute	
Link-State	: linkUp
Admin-State	: Enable
FlowCtrl-State	: Enable
AutoNego-State	: Enable
Ingress-Rate	: 0 kps
Egress-Rate	: 0 kps

enable or disable ONU Uni port

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc admin <oper>
Function	enable or disable ONU current port
<oper>	value <enable disable>: enable: enable ONU port disable: disable ONU port

configure ONU Uni port auto-nego

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc auto-nego <oper>
Function	enable or disable ONU uni port auto-nego
<oper>	value <enable disable>: enable: enable ONU uni port auto-nego disable: disable ONU uni port auto-nego

configure ONU Uni port flow-ctrl

Command	epon(olt-7/onu-1/uni-1)> ctc flow-ctrl <oper>
----------------	--

Gamma	
Function	enable or disable ONU uni port flow-ctrl.
<oper>	value <enable disable>: enable: enable ONU uni port flow-ctrl disable: disable ONU uni port flow-ctrl

Configure ONU Uni port Egress Rate

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc egress-policing < max-rate>
Function	configure ONU uni port egress rate.
< max-rate>	designate max traffic ouput rate with value<0~1000000>kbps, a value of 0 indicates no speed limit.

Configure ONU Uni port ingress Rate

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc ingress-policing < max-rate>
Function	configure ONU uni port ingress rate.
< max-rate>	designate max traffic input rate with value<0~1000000>kbps, a value of 0 indicates no speed limit

Configure ONU Uni port MAC agine-time

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc mac-aging-time <timer>
Function	configure ONU uni port MAC aging-time.
< timer >	designate the MACs aging-time with value 0-4294967295 , a value of 0 indicates the MAC address is not aging.

configure ONU Uni port statistics

Command Gamma	epon(olt-7/onu-1/uni-1)> ctc statistics <monitoring-status> <monitoring-period>
Function	Configure statistics monitoring status and period.
<monitoring-s tatus>	designate statistics monitoring status with value <enable disable> enable: enable statistics monitoring

	disable: disable statistics monitoring
<monitoring-period>	designate statistics monitoring status with value <1-4294967295>second

Configure ONU Uni Port Vlan Mode

Configure ONU Uni port VLAN aggregation mode (Our company does not support ONU)

Command Grammar	epon(olt-7/onu-1/uni-1)> ctc vlan-mode aggregation <tpid> <cos> <default-vlan> aggregation-list (Matching)
Function	configure the ONU uni port VLAN for aggregation mode.
<tpid >	designate vlan tpid, the default is 0x8100.
<cos>	designate vlan cos, valid value <0-7>.
<vlan>	designate ONU uni port aggregation mode vlan, valid value <1-4094>, the default is 1.
Aggregation-list	designate ONU uni port aggregation vlan list, maximum support 4.

【Example】

1: For the ONU uni port configuration VLAN mode for aggregation, 100 for default-vlan

```
epon(olt-7/onu-1/uni-1)> ctc vlan-mode aggregation 0x8100 7 100
```

Configure ONU Uni port VLAN tag mode

Command Grammar	epon(olt-7/onu-1/uni-1)> ctc vlan-mode tag <tpid> <cos> <vlan>
Function	configure the ONU uni port VLAN for tag mode.
<tpid >	designate vlan tpid, the default is 0x8100.
<cos>	designate vlan cos, valid value <0-7>.
<vlan>	designate ONU uni port tag mode vlan, valid value <1-4094>, the default is 1

【Example】

1: For the ONU uni port configuration VLAN mode for tag, 100 for VLAN

```
epon(olt-7/onu-1/uni-1)> ctc vlan-mode tag 0x8100 7 100
```

Configure ONU Uni port VLAN trunk mode

Command Gramma	epon(olt-7/onu-1/uni-1)> ctc vlan-mode trunk <tpid> <cos> <default-vlan> vlan-list (Matching)
Function	configure the ONU uni port VLAN for trunk mode.
<tpid>	designate vlan tpid, the default is 0x8100
<cos>	designate vlan cos, valid value <0-7>.
<vlan>	designate ONU uni port trunk mode vlan, valid value <1-4094>, the default is 1.
Vlan-list	Optional configuration, configuration can be through the VLAN list, the maximum support 60 VLAN number.

【Example】

- 1: For the ONU uni port configuration VLAN model for trunk, 100 for default-vlan, 200,2050 for vlan-list

```
epon(olt-7/onu-1/uni-1)> ctc vlan-mode trunk 0x8100 7 100 vlan-list 200,2050
```

Configure ONU Uni port VLAN translation mode

Command Gramma	epon(olt-7/onu-1/uni-1)> ctc vlan-mode translation <tpid> <cos> <default-vlan> translate-list
Function	configure the ONU uni port VLAN for translation mode.
<tpid>	designate vlan tpid, the default is 0x8100.
<cos>	designate vlan cos, valid value <0-7>.
<vlan>	designate ONU uni port translation mode vlan, valid value <1-4094>, the default is 1.
translation-list	The specified uni port list of VLAN, maximum support 8 conversion list.

【Example】

- 1: For the ONU uni port configuration mode of VLAN translation, default-vlan 100, translation-list 200-300 300-400

```
epon(olt-7/onu-1/uni-1)> ctc vlan-mode trunk 0x8100 7 100 translation-list 200-300,300-400
```

Configure ONU Uni port VLAN transparent mode

Command Gramma	epon(olt-7/onu-1/uni-1)> ctc vlan-mode transparent
Function	configure the ONU uni port VLAN for transparent mode.

【Example】

1: For the ONU uni port configuration VLAN mode for transparent

epon(olt-7/onu-1/uni-1)> ctc vlan-mode transparent
--

【Description】

Different VLAN mode to deal with different frame types.

Transparent Mode:

Frame Direction	Frame Type	Approach
Upstream	Untag frame	Untag frame does not make any change, forwarding.
	Tag frame	Tag frame does not make any changes (original VLAN TAG), forwarding.
Downstream	Untag frame	Untag frame does not make any change, forwarding.
	Tag frame	Tag frame does not make any changes (original VLAN TAG), forwarding.

Tag Mode:

Frame Direction	Frame Type	Approach
Upstream	Untag frame	Switch frames on port's default VLAN(VPID),forwarding.
	Tag frame	Discard the frame
Downstream	Untag frame	Discard the frame
	Tag frame	If the Downstream Tag frame VLAN ID equal to the configuration of the VID, According to VID forwarded to the appropriate UNI port, and stripping the tag; If the downstream Tag frame VLAN ID is not equal to the configuration of the VID, then the frame is discarded

Translation Mode:

Frame Direction	Frame Type	Approach
-----------------	------------	----------

Upstream	Untag frame	Switch frames on port's default VLAN(VPID),forwarding.
	Tag frame	Tag frame VLAN ID in the configuration of the VID conversion list, forwarding; Tag frame VLAN ID is not in the configuration of the VID conversion list, frame discarding.
Downstream	Untag frame	Discard the frame
	Tag frame	Tag frame VLAN ID corresponds to the entry in the corresponding port of the VLAN Translation list (equal to the input VID configuration), According to the table to convert the VID to a corresponding VID (VID output), forwarding; If the VLAN ID in the corresponding port of the VLAN Translation list without a corresponding entry, discarding; If the TAG frame with VLAN ID as the "default VLAN", after the VLAN label forwarding is stripped down;

Trunk Mode:

Frame Direction	Frame Type	Approach
Upstream	Untag frame	Switch frames on port's default VLAN(VPID),forwarding.
	Tag frame	Tag frame VLAN ID belongs to the port "allowed by VLAN", forwarding; Tag frame VLAN ID does not belong to the port of the "permitted by VLAN," is discarded
Downstream	Untag frame	Discard the frame
	Tag frame	Tag frame VLAN ID belongs to the port "allowed by VLAN", forwarding; Tag frame VLAN ID belongs to the port "allowed by VLAN", forwarding; If the Tag frame VLAN does not belong to the port of the "permitted by VLAN," is discarded.

Show ONU Uni port vlan configuration

Command Gramma	epon(olt-7/onu-1/uni-1)>show olt 7 onu 1 uni 1 ctc vlan-mode
Function	Show ONU uni port vlan configuration

【Example】

1: Show ONU uni port vlan configuration:

epon(olt-7/onu-1/uni-1)> show olt 7 onu 1 uni 1 ctc vlan-mode
VLAN MODE: translate

Default VLAN: TPID-0x8100, COS-6, VID-3 Traslate List: 2000<->3000 2050<->3050

7.7 ONU Authentication Management Mode

Configure ONU Blacklist Authentication mode

Command Gamma	epon(olt-1)# auth blacklist <oper> <onu>
Function	Set the EPON system ONU blacklist authentication mode, ONU is offline.
<oper>	Valid value <add/delete> add: add to blacklist authentication ONU delete: delete from blacklist authentication ONU
<ONU>	add to the blacklist of ONU MAC.

Configure ONU Whitelist Authentication mode

Command Gamma	epon(olt-1)# auth whitelist <oper> <onu>
Function	Set the EPON system ONU whitelist authentication mode;
<oper>	Valid value <add/delete> add: add to whitelist authentication ONU delete: delete from whitelist authentication ONU
<ONU>	add to the whitelist of ONU MAC.

Configure ONU LOID Authentication mode

Command Gamma	epon(olt-1)# auth ctc-auth loid <oper> <onu>
Function	Set the EPON system ONU LOID authentication mode;

<oper>	Valid value <add/delete> add: add to loid authentication ONU delete: delete from loid authentication ONU
<ONU>	add to the loid of ONU LOID.

Disable ONUAuthentication

Command Grammar	epon(olt-1)# auth disable-auth
Function	disable EPON system ONU authentication

8 Equipment diagnosis information

8.1 Ping command test

Command Grammar	epon# ping <host>
Function	Test equipment and network can reach the target host
<host>	Host ip address

【Example】

Example1: device ip: 192.168.1.100, host ip 192.168.1.234 host and device are The direct connection

<pre>epon(GE-1)# ping 192.168.1.234 PING 192.168.1.234 (192.168.1.234): 56 data bytes 64 bytes from 192.168.1.234: seq=0 ttl=64 time=8.559 ms 64 bytes from 192.168.1.234: seq=1 ttl=64 time=0.746 ms 64 bytes from 192.168.1.234: seq=2 ttl=64 time=0.561 ms 64 bytes from 192.168.1.234: seq=3 ttl=64 time=0.650 ms</pre>

8.2 Tracert checking the device the path of the host

Command Grammar	epon# tracert <host>
Function	Check the device the path of the host
<host>	Host ip address

【Example】

Example1 checking the device the path of the host。

<pre>epon(GE-1)# tracert 192.168.1.234 traceroute to 192.168.1.234 (192.168.1.234), 10 hops max, 38 byte packets 1 192.168.1.234 (192.168.1.234) 4.698 ms 0.060 ms 0.069 ms</pre>
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