

# **EPON OLT Products User Manual**

**FD1204S/FD1208S/FD1216S/FD8000-L116**

## **---Command Line Operation**

**Version: V1.2**

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## About This Manual

This manual is applicable to C-Data FD1204、FD1208S、FD1216S、FD8000-L116 EPON OLT products cli command operation, Is the user through cli command config EPON OLT equipment should read the information before guidelines.

The related documents for EPON OLT device are:

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual-Device Install Guide》

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual-Quick Configuration Guide》

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual-EMS Configuration Guide》

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# 1. Read Instructions

## Document Scope

Reading Object	Product	Products Software Version	
C-DATA Employees, FTTX Operation&Maintenance Engineer, C-DATA Customer's Technical Engineer	Cdata EPON OLT (FD1204S/FD1208S /FD1216S/FD8000-L116)	V1.3.X	
Compiling Department	C-Data Product Management Center Technical Support Department	Document Version	V1.2

## Revision History

Date	Version	Description	Author
2017-12-7	V1.1	OLT version switch to V1.2.X, cli command line have been changed.update command line operation fully.	Technical Support Department
2018-7-26	V1.2	1.OLT version switch to V1.3.X, cli command line have been changed,update command line operation fully (include template configuration and routing configuration etc.) . 2.Add FD8000-L116 config instruction	Technical Support Department

## Conventions for Command Line

Format	Specification
<b>Boldface</b>	Key words of command line will be in boldface(unchanged)
<i>Italics</i>	Parameters of command line will be in italics(replace with actual value)
[ ]	Parameters in[]is optional
(x y ...)	One of parameters in()should be chosen
[x y ...]	None or one of parameters in[]should be chosen
<x-y>	One number from x to y should be chosen
\$	The next line behind\$is annotation

## Conventions for Keyboard Operation

Format	Specification
Characters within angle brackets	Represents button's name, like <Enter>, <Tab>, <Backspace>, <a>, <?>
<button1+button2>	Press button1 and button2 at the same time, like <Ctrl+Alt+A> means pressing button of "Ctrl", "Alt", "A" at the same time.
<button1,button2>	Press button1 first, release button1, then press button2, like <Alt,F> means pressing "Alt" button first, release "Alt", then press "F" button

## Conventions for symbols

This manual adopts the following highly visible symbols to get users attention when operating, and the explanation of these symbols are as follows:



Watch-out: The matters needs attention in operating, improper operations probably will cause loss of data and damage of device



Warning: Annotation behind this symbol needs special attention, improper operations probably will cause harm to health



Tips: Provide more clear and understandable explanations and descriptions in operating

## Conventions for Words

**OLT:** Represents the system of FD1204S or FD1216S or FD1208S or F8000-L116, includes main switch processing module and uplink ports connected with uplink devices like switch.

**PON:** Represents PON protocol processing module and PON ports connected with ONU.

## Precautions

- The command line described in the document is case sensitive in OLT.
- If we meet a command that cannot be inputted or is prompted for error, we can input "?" to see the latter command format.
- Input incomplete commands can be completed by pressing the "Tab" key.
- FD1204S、FD1208S、FD1216S are Pizza-Box OLT, only have one card, so, if we want to enter PON mode, need input interface epon 0/0
- FD8000-L116 is Plug-in card OLT, has four PON card, so the command for entering PON mode is OLT(config)# interface epon 0/<SlotID>, SlotID is Slot Number, range is 1-4, for example, the command for entering slot 1 is OLT(config)# interface epon 0/1

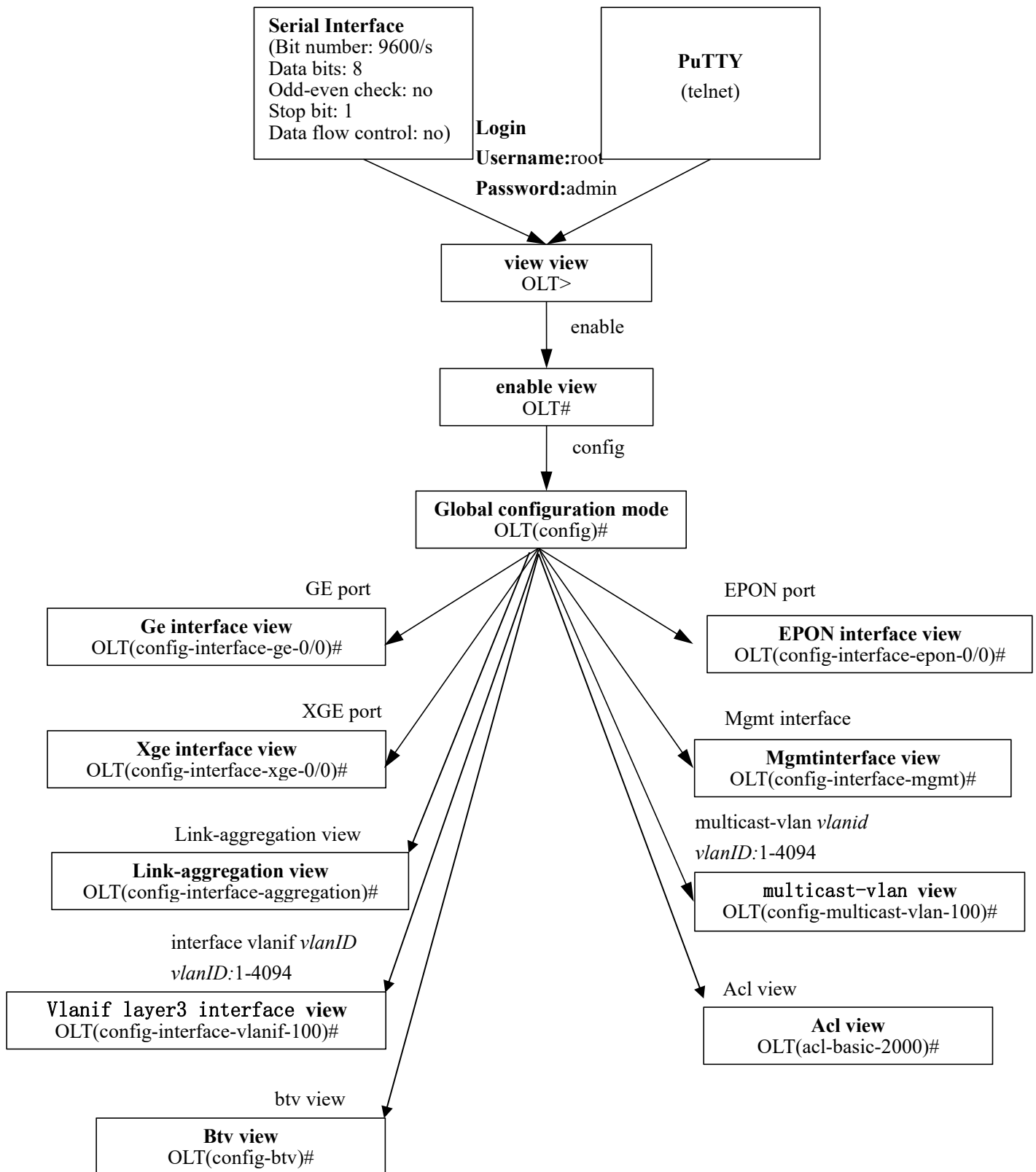
## 2. Command Line Interface View Introduce

### View and view switching

**Specification:**This command line environment includes several views as follows:

- **view view :** refers to view view or user mode in the below user will enter after inputting password,in which mode only simple commands can be processed.This view shows like:OLT>
- **enable view :** refers to enable view or privileged mode in the below user will enter after inputting enable in view mode,this mode has higher authorities and shows like:OLT#
- **config view :** refers to config view or global configuration mode in the below user will enter after inputting config in enable view.This view shows like:OLT(config)#
- **ge interface view :** refers to ge/gigabit interface view/mode user will enter after inputting interface ge 0/0 in config view.This view shows like:OLT(config-interface-ge-0/0)#
- **Xge interface view :** refers to xge/10-gigabit interface view/mode user will enter after inputting interface xge 0/0 in config view.This view shows like:OLT(config-interface-xge-0/0)#
- **EPON interface view :** refers to EPON interface view/mode user will enter after inputting interface EPON 0/0 in config view.This view shows like:OLT(config-interface-epon-0/0)#
- **Vlanif three-layer interface view :** User will enter this view after inputting interface vlanif *vlanID* in config view.This view shows like:OLT(config-interface-vlanif-100)#
- **Management interface MGMT view:** User will enter this view after inputting interface mgmt in config view.This view shows like:OLT(config-interface-mgmt)#
- **multicast-vlan view :** User will enter this view after inputting multicast-vlan *vlanid* in config view.This view shows like:OLT(config-multicast-vlan-100)#
- **link-aggregation view :** User will enter this view after inputting interface link-aggregation in config view.This view shows like:OLT(config-interface-aggregation)#

## 2.1. Command Line View Overview



### 2.1.1. Enter Enable View

<b>Command</b>	OLT> <b>enable</b>
<b>Description</b>	Enter enable view from view mode

**【Example】**

**Example:** Enter enable view from view mode

```
OLT>enable
OLT#
```

### 2.1.2. Enter Config View

<b>Command</b>	OLT# <b>config</b>
<b>Description</b>	Enter config view from enable mode

**【Example】**

**Example:** Enter enable view from view mode.

```
OLT#config
OLT(config)#
```

### 2.1.3. Enter Interface View

<b>Command</b>	OLT(config)# <b>interface epon</b> <FrameID/SlotID> OLT(config)# <b>interface ge</b> <FrameID/SlotID> OLT(config)# <b>interface link-aggregation</b> OLT(config)# <b>interface mgmt</b> OLT(config)# <b>interface vlanif</b> <vlan id> OLT(config)# <b>interface xge</b> <FrameID/SlotID>
<b>view</b>	Config view
<b>Description</b>	Enter epon/ge/link-aggregation/mgmt/vlanif/xge view from config mode
<b>&lt;vlan id&gt;</b>	VLAN ID value,the range is 1-4094
<b>&lt;FrameID/SlotID&gt;</b> <b>D&gt;</b>	Device frame id/slot id,default as 0/0, FD8000-L116 the Frame default is 0,slot need check insert board to input id,the range is 1-4

**【Example】**

**Example 1:** Enter vlanif view from config mode

```
OLT(config)#interface vlanif 100
```

```
OLT(config-interface-vlanif-100)#
```

**Example 2:** Enter ge view from config mode

```
OLT(config)#interface ge 0/0
```

```
OLT(config-interface-ge-0/0)#exit
```

**Example 3:** Enter epon view from config mode

```
OLT(config)#interface epon 0/0
```

```
OLT(config-interface-epon-0/0)#
```

## 2.1.4. Enter ACL View

<b>Command</b>	OLT(config)# <b>acl &lt;acl id&gt;</b>
<b>view</b>	Config view
<b>Description</b>	Enter acl view from config mode
<b>&lt;acl id&gt;</b>	<2000-2999>basic acl/ <3000-4999>advanced acl/ <5000-5999>link acl <8000-8199>PON side acl

### 【 Example 】

**Example 1:** Enter basic acl view from config mode

```
OLT(config)#acl 2000
```

```
ACL ID Create OK!
```

```
OLT(acl-basic-2000)#
```

**Example 2:** Enter advanced acl view from config mode

```
OLT(config)#acl 3000
```

```
ACL ID Create OK!
```

```
OLT(acl-adv-3000)#
```

**Example 3:** Enter pon side acl view from config mode

```
OLT(config)#acl 8000
```

```
OLT(acl-pon-8000)#
```

## 2.1.5. Enter Multicast-vlan View

<b>Command</b>	OLT(config)# <b>multicast-vlan &lt;multicast-vlan id&gt;</b>
----------------	--

<b>view</b>	Config view
<b>Description</b>	Enter multicast-vlan view from config mode
<b>&lt;multicast-vlan ID&gt;</b>	Multicast vlan ID,the range is 1-4094.

**【Example】**

**Example 1:** Enter multicast-vlan view from config mode

OLT(config)#multicast-vlan 100
OLT(config-multicast-vlan-100)#

## 2.1.6. Exit Arbitrary View

<b>Command</b>	OLT(config)# <b>exit</b>
<b>Description</b>	Exit current view to previous view.

**【Example】**

**Example 1:** Exit config view to enable view.

OLT(config)#exit
OLT#

## 3. OLT Device Upgrade Management

### 3.1. Upgrade OLT software

<b>Command</b>	OLT(config)# <b>load packetfile ftp &lt;ftp-server-ip&gt; &lt;user-name&gt; &lt;user-password&gt; &lt;file-name&gt;</b>
<b>view</b>	Enable view、 config view
<b>Description</b>	This command is used to upgrade olt software version and kernel version,it should be use in root account.
<b>&lt;ftp-server-ip&gt;</b>	The ip address of ftp server
<b>&lt;user-name&gt;</b>	The user name which had set in ftp server
<b>&lt;user-password &gt;</b>	The user password which had set in ftp server
<b>&lt;file-name&gt;</b>	The name of the OLT software to be downloaded.

**【Example】**

**Example 1:** Upgrade olt software,its file name is FD1216S\_FW\_V1.0.2\_150914\_1603.img,the ip address of ftp server is 192.168.1.16,ftp user name is admin,ftp user password is admin.After the olt displays“upgrade OK”,reboot the olt.

```
OLT(config)#load packetfile ftp 192.168.1.16 admin admin FD1216S_FW_V1.0.2_150914_1603.img
Broadcast message from root:
Upgrade is in process.
File[FD1216S_FW_V1.0.2_150914_1603.img]download.....OK
File[FD1216S_FW_V1.0.2_150914_1603.img]upgrade.....OK
```

**Example 2:** Upgrade the kernel of olt,its file name is FD1216S\_Kernel\_150914\_1605.img,the ip address of ftp server is 192.168.1.16,ftp user name is admin,ftp user password is admin.After the olt displays“upgrade OK”,reboot the olt.

```
OLT(config)#load packetfile ftp 192.168.1.16 admin admin FD1216S_Kernel_150914_1605.img
Broadcast message from root:
Upgrade is in process.
File[FD1216S_Kernel_150914_1605.img]download.....OK
File[FD1216S_Kernel_150914_1605.img]upgrade.....OK
```

### 3.2. Check OLT Software and Hardware Version

<b>Command</b>	OLT(config)# <b>show version</b>
<b>view</b>	enable view or config view
<b>Description</b>	This command can check the OLT hardware 、 software and kernel version information.

#### 【 Example 】

**Example1:** Check OLT firmware version.

```
OLT(config)# show version
Hardware version : V3.0
Firmware version : V1.2.2 (Mon, 17 Jul 2017 14:41:10 +0800)
Kernel version   : V1.0.0 (Thu, 29 Jun 2017 17:20:12 +0800)

OLT(config)#
```

### 3.3. Show the progress of current load/copy/backup in olt

<b>Command</b>	OLT(config)# <b>show progress</b>
<b>view</b>	Enable view,config view
<b>Description</b>	This command is used when the device is performing load,copy,and backup operations,if you need to see the progress of the current



	operation and understand the status of the operation.
--	---

**【Example】**

**Example 1:** Check the status of load progress

```
OLT(config)#show progress load
-----
Transmit Protocol:FTP
FTP Server:192.168.1.16
FTP User Name:admin
FTP Password:admin
Transmit FileName:config
Transmit Action:Put
Transmit Status:Success
Transmit Progress:100%
-----
Load Operation:Null
Load FileName:config
-----
```

## 4. OLT Device Management

### 4.1. OLT Reboot

<b>Command</b>	OLT(config)# <b>reboot</b>
<b>view</b>	Enable view or config view
<b>Description</b>	This command is used to reboot OLT,only the root user group has this permission.

**【Example】**

**Example1:** reboot OLT

```
OLT#reboot
Please check whether data has saved,the unsaved data will lose if reboot syst
em.Are you sure to reboot system?(y/n)[n]:y
```

### 4.2. Config OLT Outband Manager IP

<b>Command</b>	OLT(config-interface-mgmt)# <b>ip address &lt;ip-address&gt; {&lt;ip-address-mask&gt;  &lt;length of mask&gt;}</b>
<b>View</b>	Mgmt view
<b>Description</b>	The IP address command is used to configure IP addresses and subnet

	masks of management interfaces.You can visit OLT by this IP address.
<ip-address>	IP address.The IP address is divided into five categories,and the user can choose the appropriate IP subnet according to the actual situation.The host address part is all 0 or all 1 has special function,which cannot be used as the general IP address.
<ip-address-mask>	Subnet mask.Format for X.X.X.X
<length of mask>	length of subnet mask,the range is 0-32

**【Example】**

**Example 1:** Config the ip address of mgmt interface as 192.168.5.63,the length of subnet mask is 24.

```
OLT(config-interface-mgmt)#ip address 192.168.5.63 24
```

```
OLT(config-interface-mgmt)#
```

### 4.3. Config Vlanif Interface IP Address(Inband)

<b>Command</b>	OLT(config-interface-vlanif-100)#ip address <ip-address> {<ip-address-mask>  <length of mask>}
<b>view</b>	Vlanif view
<b>Description</b>	The IP address command is used to configure the IP address and subnet mask of the VLAN interface.This command is used when the IP packet in the VLAN is required to participate in the three-tier forwarding.After the IP address of the configuration interface and the subnet mask are successful,the IP packet in the VLAN is forwarded by this ip in three layers.
<ip-address>	IP address.The IP address is divided into five categories,and the user can choose the appropriate IP subnet according to the actual situation.The host address part is all 0 or all 1 has special function,which cannot be used as the general IP address.
<ip-address-mask>	Subnet mask.Format for X.X.X.X
<length of mask>	length of subnet mask the range is 0-32

**【Example】**

**Example 1:** Config the ip address of vlanif interface as 192.168.100.1,subnet mask is

255.255.255.0.

```
OLT(config-interface-vlanif-100)#ip address 192.168.100.1 255.255.255.0
```

```
OLT(config-interface-vlanif-100)#
```

#### 4.4. Show MGMT IP Address (Inband)

<b>Command</b>	OLT(config)# <b>show interface mgmt</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to query the ip address,mac address,the Maximum Transmit Unit and etc info of mgmt interface.

##### 【Example】

**Example 1:** Show the ip address,mac address,the Maximum Transmit Unit and etc info of mgmt interface

```
OLT(config)#show interface mgmt
Description:Outband management interface
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.5.63,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:19
Recive 96006 packets,10423985 bytes
Transmit 10753 packets,783785 bytes

OLT(config)#
```

#### 4.5. Show Vlanif IP Address (Outband)

<b>Command</b>	OLT(config)# <b>show interface vlanif &lt;vlan-interface-number&gt;</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to query the ip address,mac address,the Maximum Transmit Unit and etc info of vlanif interface.
<b>&lt;vlan-interface-number&gt;</b>	The id of vlanif interface,its range is 1-4094

##### 【Example】

**Example 1:** Show the ip address,mac address,the Maximum Transmit Unit and etc info of vlanif interface

```
OLT(config)#show interface vlanif 100
Description:Inband interface vlanif100
The Maximum Transmit Unit is 1500 bytes
```

```
Internet Address is 192.168.100.1,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes

OLT(config)#
```

**Example 2:**Show the information of all the vlanif interface

```
OLT(config)#show interface vlanif
Description:Inband interface vlanif100
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.100.1,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes

Description:Inband interface vlanif200
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.6.66,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes

OLT(config)#
```

## 4.6. Show OLT Detail Information

<b>Command</b>	OLT(config)# <a href="#">show device</a>
<b>view</b>	Enable view,config view
<b>Description</b>	This command is used to Show the device model/mac address/SN/vendor name and etc info of olt.

**【 Example 】**

**Example 1:** Show the device info of olt.

```
OLT(config)#show device
-----
Device model:epon
Device MAC address:E0:56:43:A9:B4:19
Device serial-number:AF1701-16080003
Device vendor name:XPON
-----

OLT(config)#
```

## 4.7. Config OLT User Logout Time

<b>Command</b>	OLT(config)# <b>exec-timeout</b> <time>
<b>view</b>	enable view,config view
<b>Description</b>	This command is used to configure the user login timeout,which will automatically log out when the user does not do anything with the device at the set time.The default is 300 seconds.
<b>&lt;time&gt;</b>	The time of timeout,its unit is second.

### 【Example】

**Example 1:** Config the timeout time as 36000s.

```
OLT(config)#exec-timeout 36000
```

```
OLT(config)#
```

## 4.8. Show OLT User Logout Time

<b>Command</b>	OLT(config)# <b>show exec-timeout</b>
<b>view</b>	Enable view,config view
<b>Description</b>	This command is used to show the user timeout time.

### 【Example】

**Example 1:** show the user timeout time

```
OLT#show exec-timeout
Timeout:36000s
```

```
OLT#
```

## 4.9. Logout System

<b>Command</b>	OLT(config)# <b>logout</b>
<b>view</b>	View view,enable view,config view
<b>Description</b>	This command is used to logout current system

### 【Example】

**Example 1:** Logout the system.

```
OLT#logout
```

```
>>User name:
```

## 4.10. Exit OLT Current View Mode

<b>Command</b>	OLT(config)# <b>end</b>
<b>view</b>	Enable view,config view
<b>Description</b>	This command is used to enter view mode from current view.

### 【Example】

**Example 1:** Exit config view to view mode

```
OLT(config)#end
```

```
OLT>
```

## 4.11. Config OLT DNS server IP Address

<b>Command</b>	OLT(config)# <b>dns server &lt;ip-addr&gt;</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to configure the ip address of DNS server.
<b>&lt;ip-addr&gt;</b>	IP address,format for X.X.X.X

### 【Example】

**Example 1:** Config the ip address of olt's DNS server as 192.168.5.1

```
OLT(config)#dns server 192.168.5.1
```

```
OLT(config)#
```

## 4.12. Delete OLT DNS Server IP Address

<b>Command</b>	OLT(config)# <b>no dns server &lt;ip-addr&gt;</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to delete the ip address of DNS server.when there is no parameter after dns server,it is used to delete the primary and secondary dns server.
<b>&lt;ip-addr&gt;</b>	IP address,format for X.X.X.X

### 【Example】

**Example 1:** Remove the DNS server's IP address 192.168.5.1 in olt

```
OLT(config)#no dns server 192.168.5.1
```

```
OLT(config)#
```

### 4.13. Show OLT DNS Server IP Address

<b>Command</b>	OLT(config)# <b>show dns server</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to show ip address of DNS server.

#### 【Example】

**Example 1:** Show the ip address of the DNS server.

```
OLT(config)#show dns server
```

```
IPv4 Dns Servers:
```

```
Domain-server IpAddress
```

```
1 192.168.5.1
```

```
OLT(config)
```

### 4.14. Config OLT Hostname

<b>Command</b>	OLT(config)# <b>sysname &lt;name&gt;</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to set the olt's sysname which is show in command windows.
<b>&lt;name&gt;</b>	Olt's name,support 1-16 strings.

#### 【Example】

**Example 1:** Config the olt's sysname as test.

```
OLT(config)#sysname test
```

```
test(config)#
```

## 5. OLT Status Monitor

### 5.1. Show OLT Fan Working Status

<b>Command</b>	OLT(config)# <b>show fan</b>
<b>view</b>	enable view,config view

<b>Description</b>	This command is used to show the working status of fan.
--------------------	---

**【Example】**

**Example 1:** Show the working status of fan

<pre> OLT#show fan ----- FAN[1]status:Normal(7200RPM) FAN[2]status:Normal(7020RPM) FAN[3]status:Normal(7140RPM) -----  OLT# </pre>
--

## 5.2. Show OLT Working Temperature

<b>Command</b>	OLT(config)# <b>show temperature</b>
<b>view</b>	enable view,config view
<b>Description</b>	This command is used to show the real time working temperature of olt

**【Example】**

**Example 1:** Show the real time working temperature of olt

<pre> OLT#show temperature The temperature of the board:45.0(C)  OLT# </pre>
--

## 5.3. Show OLT Memory Usage

<b>Command</b>	OLT(config)# <b>show memory</b>
<b>view</b>	enable view,config view
<b>Description</b>	This command is used to show the memory usage of OLT.

**【Example】**

**Example 1:** Show the memory usage of OLT.

<pre> OLT#show memory ----- Total memory:242MB Free memory:124MB Utilization:49% ----- </pre>
---



OLT#

## 5.4. Config OLT System Time

<b>Command</b>	OLT(config)# <b>time &lt;time&gt;</b>
<b>view</b>	config view
<b>Description</b>	This command is used to Set the system time of olt
<b>&lt;time&gt;</b>	Time,format for YYYY/MM/DD-HH:MM:SS

### 【Example】

**Example 1:** Set the system time of olt

```
OLT(config)#time 2017/09/08-10:44:59
```

```
OLT(config)#
```

## 5.5. Show OLT System Time

<b>Command</b>	OLT(config)# <b>show time</b>
<b>view</b>	enable view,config view
<b>Description</b>	This command is used to show the system time of olt.

### 【Example】

**Example 1:** show the system time of olt.

```
OLT(config)#show time
```

```
2017-09-08 10:48:58+00:00
```

```
OLT(config)#
```

## 5.6. Show OLT Boot Time and Running Time

<b>Command</b>	OLT(config)# <b>show uptime</b>
<b>view</b>	enable view,config view
<b>Description</b>	This command is used to show the up time and boot time of the olt

### 【Example】

**Example 1:** Show the up time and boot time of the olt

```
OLT#show uptime
```

System up time:0 day 17 hour 29 minute 47 second

System boot time:Thu Sep 7 17:20:33 2017

OLT#

## 5.7. Config OLT NTP Time and Server

<b>Command</b>	OLT(config)# <b>ntp-service unicast-service</b> {<ip-addr> <domain name>}
<b>view</b>	config view
<b>Description</b>	This command is used to set the ip address of the NTP server.
<b>&lt;ip-addr&gt;</b>	Ip address of NTP server,format for X.X.X.X
<b>&lt;domain name&gt;</b>	The domain name of NTP server

### 【Example】

**Example 1:** Set the NTP server's ip address as 202.120.2.101

```
OLT(config)#ntp-service unicast-service 202.120.2.101
```

```
OLT(config)#
```

## 5.8. Delete NTP Time and Server

<b>Command</b>	OLT(config)# <b>no ntp-service unicast-service</b> {<ip-addr> <domain name>}
<b>view</b>	Config view
<b>Description</b>	This command is used to Delete the NTP server
<b>&lt;ip-addr&gt;</b>	IP address of NTP server,format for X.X.X.X
<b>&lt;domain name&gt;</b>	The domain name of NTP server

### 【Example】

**Example 1:** Delete the NTP server's ip address 202.120.2.101

```
OLT(config)#no ntp-service unicast-service 202.120.2.101
```

```
OLT(config)#
```

## 5.9. Show NTP Server Session Information

<b>Command</b>	OLT(config)# <b>show ntp-service session</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to show the session info of the NTP server
--------------------	---

**【Example】**

**Example 1:** Show the session info of the NTP server

<pre> OLT(config)#show ntp-service session clock source:202.120.2.101 clock stratum:0 clock status:configured reference clock ID:0.0.0.0 reach:0 current poll:64 secs now:0 offset:+0.000000ms delay:0.000000 disper:0.000000  OLT(config)# </pre>
--

## 5.10. Config OLT Systemme Timezone

<b>Command</b>	OLT(config)# <b>timezone {gmt+/gmt} -&lt;timezone&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the system timezone of the olt.GMT+represents the eastern time zone,which means local time is faster than Greenwich mean time,and GMT-means the west time zone,which means local time is slower than Greenwich mean time.
<b>&lt;timezone&gt;</b>	The time of timezone,format for hh:mm.The max value of eastern timezone is 18:00,and the max value of west timezone is 18:00.

**【Example】**

**Example 1:** Set the system timezone of the olt as gmt+08:00

<pre> OLT(config)#timezone gmt+08:00  OLT(config)# </pre>
---

## 5.11. Show OLT System Current Timezone

<b>Command</b>	OLT(config)# <b>show timezone</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the system current timezone of the olt

**【 Example 】**

**Example 1:** Show the system current timezone of the olt

```
OLT(config)#show timezone
The current time zone:GMT+08:00

OLT(config)#
```

## 5.12. Show OLT Local MAC Address Information

<b>Command</b>	OLT(config)# <b>show location</b> <mac-addr>
<b>view</b>	config view
<b>Description</b>	This command is used to show the local mac address info of the olt
<b>&lt;mac-addr&gt;</b>	Mac address,format for xx:xx:xx:xx:xx:xx

**【 Example 】**

**Example 1:** Show the local mac E0:56:43:A9:B4:1A info of the olt.

```
OLT(config)#show location E0:56:43:A9:B4:1A
-----
Total:2
-----
MAC VLAN Port MAC-Type
-----
E0:56:43:A9:B4:1A 100 cpu static
E0:56:43:A9:B4:1A 200 cpu static
-----

OLT(config)#
```

## 5.13. Show OLT CPU Usage

<b>Command</b>	OLT(config)# <b>show cpu</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the cpu status of the olt.

**【 Example 】**

**Example 1:** Show the cpu status of the olt

```
OLT(config)#show cpu
-----
Utilization:54%
Load Average(1min):8.11
```

```
Load Average(5min):8.38
Load Average(15min):8.39
-----
```

```
OLT(config)#
```

## 5.14. Show OLT History Input Command

<b>Command</b>	OLT(config)# <a href="#">show history</a>
<b>View</b>	enable view,config view
<b>Description</b>	This command is used to show the command input history information of the olt

### 【Example】

**Example 1:** Show the command input history information of the olt

```
OLT(config)#show history
enable
config
exec-timeout 36000
exit
show dns server
show cpu

OLT(config)#
```

## 6. OLT Configuration Manage

### 6.1. Backup OLT Configuration

<b>Command</b>	OLT(config)# <a href="#">backup configuration ftp &lt;server-ip-address&gt; &lt;user-name&gt; &lt;user-password&gt; &lt;filename&gt;</a>
<b>view</b>	enable view,config view
<b>Description</b>	Backup the config file of the olt
<a href="#">&lt;server-ip-address&gt;</a>	IP address of the ftp server
<a href="#">&lt;user-name&gt;</a>	ftp user name
<a href="#">&lt;user-password&gt;</a>	ftp user password

<b>&lt;filename&gt;</b>	The name of the backup configuration file,set it by yourself,does not require a file format.
-------------------------	--

**【Example】**

**Example 1:** Backup the device config file,the ftp user name is admin,password is admin,set the backup file's name as config.

```
OLT(config)#backup configuration ftp 192.168.1.16 admin admin config
Start backup configuration files
The backup is successful

OLT(config)#
```

## 6.2. Download OLT Configuration

<b>Command</b>	OLT(config)# <b>load configuration ftp &lt;server-ip-address&gt; &lt;user-name&gt; &lt;user-password&gt; &lt;filename&gt;</b>
<b>View</b>	Enable view,config view
<b>Description</b>	Download the configuration of the olt
<b>&lt;server-ip-address&gt;</b>	IP address of the ftp server
<b>&lt;user-name&gt;</b>	ftp user name
<b>&lt;user-password&gt;</b>	ftp user password
<b>&lt;filename&gt;</b>	The name of the configuration file to be downloaded,set it by yourself,does not require a file format.

**【Example】**

**Example 1 :** Download the configuration file,the ftp user name is admin,password is admin,set the file's name as config.

```
OLT(config)#load configuration ftp 192.168.1.16 admin admin config
The new configuration file will overwrite the old one
Are you sure to load new
configuration file?(y/n)[n]:y
Broadcast message from root:
Start loading configuration
The loading is successful
Note:The configuration file will take effect after reboot

OLT(config)#
```

### 6.3. Show OLT Current Configuration

<b>Command</b>	OLT(config)# <b>show current-config</b>
<b>View</b>	Enable view,config view
<b>Description</b>	This command is used to show the real time configuration file.This command is used when the user completes a set of configurations and verifies that the configuration is correct and needs to query the currently effective configuration command.

#### 【Example】

##### Example 1: Show current configuration

```
OLT(config)#show current-config
Current configuration:
!
spanning-tree enable
spanning-tree timer max-age 6
spanning-tree timer forward-delay 30
spanning-tree timer hello 1
spanning-tree priority 4096
!
interface ge
spanning-tree edged-port 1 enable
spanning-tree priority 1 16
spanning-tree cost 1 1600
spanning-tree mcheck 1 enable
exit
```

### 6.4. Save OLT Configuration

<b>Command</b>	OLT(config)# <b>save</b>
<b>View</b>	enable view,config view
<b>Description</b>	This command is used to save the olt current configuration

#### 【Example】

##### Example 1: Save the olt current configuration

```
OLT(config)#save
The percentage of saved data is:0%
The percentage of saved data is:4%
The percentage of saved data is:9%
The percentage of saved data is:13%
```

The percentage of saved data is:18%  
 The percentage of saved data is:22%  
 The percentage of saved data is:27%  
 The percentage of saved data is:31%  
 The percentage of saved data is:36%  
 The percentage of saved data is:40%  
 The percentage of saved data is:45%  
 The percentage of saved data is:68%  
 The percentage of saved data is:81%  
 The percentage of saved data is:95%  
 The percentage of saved data is:100%  
 OLT(config)#

## 6.5. Erase OLT Configuration

<b>Command</b>	OLT(config)# <b>erase saved-config</b>
<b>View</b>	Enable view,config view
<b>Description</b>	This command is used to erase the configuration,and after executing the command,reboot the OLT,and OLT will restore factory Settings.

### 【Example】

#### Example 1: Erase the saved-config

```
OLT#erase saved-config
This command will clear the active board data that has been saved
Please remember to backup the system configuration data
Are you sure to continue?(y/n)[n]:y

Successfully restored factory configuration!
```

## 6.6. Show OLT Saved-config

<b>Command</b>	OLT(config)# <b>show saved-config</b>
<b>View</b>	enable view,config view
<b>Description</b>	This command is used to show saved-config

### 【Example】

#### Example 1: show saved-config

```
OLT(config)#show saved-config
#Saving user:root
#Saving time:2017-03-20 19:00:02+0800
spanning-tree enable
```



```
spanning-tree timer max-age 6
spanning-tree timer forward-delay 30
spanning-tree timer hello 1
spanning-tree priority 4096
interface ge
spanning-tree edged-port 1 enable
spanning-tree priority 1 16
spanning-tree cost 1 1600
spanning-tree mcheck 1 enable
exit
```

## 7. OLT Login User Manage

### 7.1. Add OLT New Login Username and Password

<b>Command</b>	OLT(config)# <b>user add</b> <user-name> <user-password> {admin/guest/root}
<b>View</b>	Config view
<b>Description</b>	This command is used to add new users,new user passwords,and the new user groups are root,admin,and guest respectively. Root:the user has all the permissions for the device. Admin:users have configuration,view permissions,no restart,upgrade permissions. Guest:the user has the view configuration,backup permission.
<user-name>	New user name
<user-password >	New user password
admin/guest/ root	The permissions of the new user,there are root/admin/guest respectively.

#### 【Example】

**Example 1:** Create an admin user,its name is test,password is test.

```
OLT(config)#user add test test admin
OLT(config)#
```

### 7.2. Delete OLT Login User

<b>Command</b>	OLT(config)# <b>user delete</b> <name>
----------------	--

<b>View</b>	Config view
<b>Description</b>	This command is used to delete the user.caution:the root user cannot be delete.
<b>&lt;name&gt;</b>	The user name to be delete

**【Example】**

**Example 1:** Delete the user test.

```
OLT(config)#user delete test
OLT(config)#
```

### 7.3. Change OLT Login User Password

<b>Command</b>	OLT(config)# <b>user password &lt;user-name&gt; &lt;user-password&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to change the password of the existing user.
<b>&lt;user-name&gt;</b>	The user name of the password to be changed.
<b>&lt;user-password &gt;</b>	New password

**【Example】**

**Example 1:** Change the user password to 123456

```
OLT(config)#user password test 123456
OLT(config)#
```

### 7.4. Show OLT Exist Username

<b>Command</b>	OLT(config)# <b>show user</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all of the users which had been created in olt

**【Example】**

**Example 1:** Show all of the users which had been created in olt

```
OLT(config)#show user
```

```
-----
User Group
-----
```

```
root root
```

```
yao guest
```

```
test admin
-----
OLT(config)#
```

## 7.5. Show OLT Login User Information

<b>Command</b>	OLT(config)# <b>show client</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the information of online user

### 【Example】

**Example 1:** show the information of online user

```
OLT(config)#show client
ID Access-Type User-Name IP-Address Login-Time
-----
>32 Telnet root 192.168.5.67 03:52:47
46 Telnet root 192.168.5.20 00:07:45

OLT(config)#
```

## 7.6. Kill OLT Online User

<b>Command</b>	OLT(config)# <b>client kick-off &lt;client-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to kick the other online user off
<b>&lt;client-id&gt;</b>	Login user ID,the range can be 1-4294967295.This ID can be viewed through the show client command.

### 【Example】

**Example 1:** Kick the client 44 off.

```
OLT#client kick-off 44
The user has been kicked off successfully
OLT#
```

## 8. OLT SNMP Config

### 8.1. SNMP Enable and Disable

<b>Command</b>	OLT(config)# <b>snmp-agent {enable   disable}</b>
----------------	---

<b>View</b>	config view
<b>Description</b>	The EMS can manager the olt,only if the snmp agent function is enabled.EMS can not manager the olt while this function is disabled.
<b>enable   disable</b>	disable: Disable the SNMP agent feature enable e: Enable the SNMP agent feature

**【Example】**

**Example 1:** Disable the SNMP agent feature

```
OLT(config)#snmp-agent disable
OLT(config)#
```

**Example 2:**Enable the SNMP agent feature

```
OLT(config)#snmp-agent enable
OLT(config)#
```

## 8.2. Show OLT Snmp Agent Status

<b>Command</b>	OLT(config)# <b>show snmp-agent status</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the feature status of snmp agent

**【Example】**

**Example 1:** Show the feature status of snmp agent

```
OLT(config)#show snmp-agent status
Snmp agent status:Enable

OLT(config)#
```

## 8.3. Config OLT SNMP Community

<b>Command</b>	OLT(config)# <b>snmp-agent community read&lt;community-name&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to config the read community name of SNMP
<b>&lt;community-name&gt;</b>	The name of read community and supports 1-32 characters.Generally set to public.

**【Example】**

**Example 1:** Set the snmp agent read community's name as public

```
OLT(config)#snmp-agent community read public
```

## 8.4. Show OLT SNMP Read Community

<b>Command</b>	OLT(config)# <a href="#">show snmp-agent community read</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the snmp agent read community.

### 【Example】

**Example 1:** Show the snmp agent read community.

```
OLT(config)#show snmp-agent community read
-----
Community-Name VACM-Name View-Name
-----
public default all
-----
OLT(config)#
```

## 8.5. Config OLT SNMP Write Community

<b>Command</b>	OLT(config)# <a href="#">snmp-agent community write&lt;community-name&gt;</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to config the write community name of SNMP
<a href="#">&lt;community-name&gt;</a>	The name of write community and supports 1-32 characters. Generally set to private.

### 【Example】

**Example 1:** Set the snmp agent write community's name as private

```
OLT(config)#snmp-agent community write private
OLT(config)#
```

## 8.6. Show SNMP Write Community

<b>Command</b>	OLT(config)# <a href="#">show snmp-agent community read</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to show SNMP agent write community

### 【Example】

**Example 1:** Show SNMP agent write community

```
OLT(config)#show snmp-agent community write
```

```

-----
Community-Name VACM-Name View-Name
-----
private default all
-----

OLT(config)#

```

## 8.7. Config OLT SNMP Community Group with Authentication

<b>Command</b>	OLT(config)#snmp-agent group v3<group-name>authentication {[notify-view<none   all>][read-view<none   all>][write-view<none   all>]}
<b>View</b>	Config view
<b>Description</b>	This command is used to set secure based snmp agent group carrying with authentication
<b>&lt;group-name&gt;</b>	Group name,it supports 1-32 characters
<b>notify-view</b>	Specifies the notification view corresponding to the group name.
<b>read-view</b>	Set the read-only view corresponding to the group name
<b>write-view</b>	Set the read/write view corresponding to group name
<b>none</b>	Mismatch view
<b>all</b>	Match all the view

### 【 Example 】

**Example 1:** Set secure based snmp agent group carrying with authentication,group name is test,corresponding to all the notification view.

```

OLT(config)#snmp-agent group v3 test authentication notify-view all

OLT(config)#

```

## 8.8. Config OLT SNMP Community Group with Unauth

<b>Command</b>	OLT(config)#snmp-agent group v3<group-name>noauth {[notify-view <none   all>][ read-view <none   all>][ write-view <none   all>]}
<b>View</b>	Config view

<b>Description</b>	This command is used to Set secure mode based SNMP agent group without authentication
<b>&lt;group-name&gt;</b>	Group name,it supports 1-32 characters
<b>notify-view</b>	Specifies the notification view corresponding to the group name.
<b>read-view</b>	Set the read-only view corresponding to the group name
<b>write-view</b>	Set the read/write view corresponding to group name
<b>none</b>	Mismatch view
<b>all</b>	Match all the view

**【 Example 】**

**Example1:**Set secure mode based SNMP agent group without authentication,group name is test,corresponding to all the read-view.

```
OLT(config)#snmp-agent group v3 test noauth read-view all
OLT(config)#
```

## 8.9. Config OLT SNMP Community Group with Privacy

<b>Command</b>	OLT(config)#snmp-agent group v3<group-name>privacy {[notify-view <none  all>][ read-view <none  all>][ write-view <none  all>]}
<b>View</b>	Config view
<b>Description</b>	This command is used to configure a group of secure mode based SNMP agent which carries with hidden property.
<b>&lt;group-name&gt;</b>	Group name,it supports 1-32 characters
<b>notify-view</b>	Specifies the notification view corresponding to the group name.
<b>read-view</b>	Set the read-only view corresponding to the group name
<b>write-view</b>	Set the read/write view corresponding to group name
<b>none</b>	Mismatch view
<b>all</b>	Match all the view

**【 Example 】**

**Example 1:** Set secure mode based SNMP agent group carrying with hidden property,group name is test,corresponding to all the write-view.

```
OLT(config)#snmp-agent group v3 test privacy write-view all
```

```
OLT(config)#
```

## 8.10. Config OLT SNMP Agent Description

<b>Command</b>	OLT(config)# <b>snmp-agent sys-info description</b> <description>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure SNMP agent system description info
<b>&lt;description&gt;</b>	Description info,it supports 1-100 characters,the default value is description.

### 【Example】

**Example 1:** Configure the SNMP agent system description info as test

```
OLT(config)#snmp-agent sys-info description test

OLT(config)#
```

## 8.11. Configure SNMP Agent Location Information

<b>Command</b>	OLT(config)# <b>snmp-agent sys-info location</b> <location>
<b>View</b>	config view
<b>Description</b>	This command is used to configure SNMP agent system location info
<b>&lt;location&gt;</b>	Description info,it supports 1-100 characters.The default value is location

### 【Example】

**Example 1:** Configure SNMP agent system location info as test1

```
OLT(config)#snmp-agent sys-info location test1

OLT(config)#
```

## 8.12. Configure SNMP Agent Contact Infomation

<b>Command</b>	OLT(config)# <b>snmp-agent sys-info contact</b> <contact>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure snmp agent contact info
<b>&lt;contact&gt;</b>	Description info,it supports 1-100 characters.The default value is



	contact
--	---------

**【Example】**

**Example 1:** Configure SNMP agent contact info as test2

OLT(config)#snmp-agent sys-info contact test2
OLT(config)#

### 8.13. Configure Snmp Agent System Name

<b>Command</b>	OLT(config)# <b>snmp-agent sys-info name &lt;name&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to config snmp agent system name
<b>&lt;name&gt;</b>	Description info,it supports 1-100 characters.The default value is name

**【Example】**

**Example 1:** Configure the snmp agent system name as test3

OLT(config)#snmp-agent sys-info name test3
OLT(config)#

### 8.14. Show SNMP Agent System Info

<b>Command</b>	OLT(config)# <b>show snmp-agent sys-info</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show snmp agent system info

**【Example】**

**Example 1:** Show snmp agent system info

OLT(config)#show snmp-agent sys-info
The name of this managed node: test3
The description of this managed node: test
The contact person for this managed node: test2
The physical location of this node:

```
test1

OLT(config)#
```

## 8.15. Config SNMP Trap IP

<b>Command</b>	OLT(config)#snmp-agent trap <host-name> <ip-addr> <port> <community-name>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure the alarm receive ip of snmp agent
<host-name>	Description info,it supports 1-32 characters
<ip-addr>	Alarm receive ip
<port>	Receive the alarm port number,the range is 1-65535.
<community-name>	Community name,it supports 1-32 characters.

### 【Example】

**Example 1:** Configure the snmp agent alarm receive ip as 192.168.5.185,host is test,port number is 563,community name is public.

```
OLT(config)#snmp-agent trap test 192.168.5.185 563 public

OLT(config)#
```

## 8.16. Show SNMP Trap IP Infor

<b>Command</b>	OLT(config)#show snmp-agent trap
<b>View</b>	Config view
<b>Description</b>	This command is used to show SNMP agent alarm receive ip info

### 【Example】

**Example 1:** Show SNMP agent alarm receive ip info

```
OLT(config)#show snmp-agent trap
-----
Index Host-Name IP-Address Port Community-Name
-----
1 test 192.168.5.185 563 public
-----
```

OLT(config)#

## 8.17. Config SNMP Access User&Auth Mode &Password

<b>Command</b>	OLT(config)# <b>snmp-agent usm-user &lt;user-name&gt; &lt;group-id&gt; authentication-mode md5 &lt;md5-password&gt; privacy-mode des56 &lt;des56-password&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to mapping the snmp agent access entity user to secure group,and configure authentication mode and password meanwhile.The authentication mode is optional parameter. <b>Caution:it is need to create a group of secure mode based snmp agent.</b>
<b>&lt;user-name&gt;</b>	Entity access user name
<b>&lt;group-id&gt;</b>	Group id which is based on user secure mode.
<b>&lt;md5-password&gt;</b>	User authentication password,its length is 8-64 characters.
<b>&lt;des56-passwor d&gt;</b>	56 bits DES encrypted password,its length is 8-64 characters.

### 【 Example 】

**Example 1:** Set SNMP agent entity access user as test1,mapping it to group test which is based on secure mode,authentication mode is md5,the password is 12345678,the privacy mode is des56 and its password is 11111111

```
OLT(config)#snmp-agent usm-user v3 test1 test authentication-mode md5 12345678
privacy-mode des56 11111111

OLT(config)#
```

## 8.18. Show SNMP Access User

<b>Command</b>	OLT(config)# <b>show snmp-agent usm-user &lt;user&gt;</b>
<b>View</b>	config view
<b>Description</b>	This command is used to show SNMP agent entity access user
<b>&lt;user&gt;</b>	Name of entity access user,it supports 1-64 characters.it's optional,without this parameter it will show all the entity access user info,if it is added it will show the specified entity access user info.

### 【 Example 】

**Example 1:** Show all the entity access user info

```

OLT(config)#show snmp-agent usm-user
User name:test
Group name:test
Authentication mode:md5
Authentication key:12345678
Privacy mode:des56
Privacy key:12345678

User name:test1
Group name:test
Authentication mode:md5
Authentication key:12345678
Privacy mode:des56
Privacy key:11111111

Total number:2

OLT(config)#

```

**Example 2:** Show SNMP agent entity access user“test”info.

```

OLT(config)#show snmp-agent usm-user test
User name:test
Group name:test
Authentication mode:md5
Authentication key:12345678
Privacy mode:des56
Privacy key:12345678

```

## 9. OLT Uplink Port Configuration

### 9.1. OLT Uplink Basic Function Configuration

#### 9.1.1. Disable Uplink Port

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>shutdown</b> <port-list>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to disable the specified ge port.
<port-list>	The port list to be configured,format for 1,3-5,8.

**【Example】**

**Example 1:** Disable the uplink port ge1-ge3 of olt.

```
OLT(config-interface-ge-0/0)#shutdown 1-3
```

```
OLT(config-interface-ge-0/0)#
```

**Example 2:** Disable the uplink port ge5 and ge7 of olt.

```
OLT(config-interface-ge-0/0)#shutdown 5,7
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.2. Enable Uplink Port

<b>Command</b>	OLT(config-interface-ge-0/0)#no shutdown <port-list>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable the specified ge port.
<port-list>	The port list to be configured,format for 1,3-5,8.

#### 【Example】

**Example 1:** Enable the uplink port ge1-ge3 of olt.

```
OLT(config-interface-ge-0/0)#no shutdown 1-3
```

```
OLT(config-interface-ge-0/0)#
```

**Example 2:** Enable the uplink port ge5 and ge7 of olt.

```
OLT(config-interface-ge-0/0)#no shutdown 5,7
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.3. Config Uplink Port Name

<b>Command</b>	OLT(config-interface-ge-0/0)#port-name <port-id> <name>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to name the ge port,it is convenient for user to manager.
<port-id>	The port id to be set,range for 1-8.
<name>	The port name to be set

#### 【Example】

**Example 1:** Set the port name of ge1 as test.

```
OLT(config-interface-ge-0/0)#port-name 1 test
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.4. Delete Uplink Port Name

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>no port-name &lt;port-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to restore the name of ge port to the default value.
<b>&lt;port-id&gt;</b>	The port id to be set,range for 1-8.

#### 【Example】

**Example 1:** Restore the name of ge1 to default value.

```
OLT(config-interface-ge-0/0)#no port-name 1
OLT(config-interface-ge-0/0)#
```

### 9.1.5. Config Uplink Electric Port Auto-negotiation

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>auto-neg &lt;port-list&gt; {enable   disable}</b>
<b>View</b>	GE view
<b>Description</b>	This command is used to enable disable the auto-negotiation mode of Ethernet port.In the case of enabled,the Ethernet port will automatically negotiate port rate and duplex mode with the docking port,and the system will display as auto-negotiation,with the port rate up to 1000M in this mode.In the case of disabled,the rate and working mode of the port is the default value of the system or the set value(that is,mandatory).
<b>&lt;port-list&gt;</b>	The port list to be set,format for 5,6-7,8.Port 1-4 is uplink optical port,it does not support auto-negotiation.
<b>enable   disable</b>	Enable:Enable the function of port auto-negotiation Disable:Disable the function of port auto-negotiation

#### 【Example】

**Example 1:** Enable the function of ge5 auto-negotiation

```
OLT(config-interface-ge-0/0)#auto-neg 5 enable
OLT(config-interface-ge-0/0)#
```

**Example 2:**Disable the function of ge5 auto-negotiation

```
OLT(config-interface-ge-0/0)#auto-neg 5 disable
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.6. Config Uplink Electric Port Duplex Mode

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>duplex &lt;port-list&gt; {full/half}</b>
<b>View</b>	GE view
<b>Description</b>	This command is used to set the duplex mode of the Ethernet port.it will work in manual setting mode like full or half duplex.the default is full duplex.
<b>&lt;port-list&gt;</b>	The port list to be set,format for 5,6-7,8.Port 1-4 is uplink optical port,it does not support duplex mode setting.the default duplex mode of optical port and electrical port both are full duplex.
<b>full/half</b>	full:Full duplex half:Half duplex

#### 【Example】

**Example 1:** Set the duplex mode of uplink port ge5 as half duplex.

```
OLT(config-interface-ge-0/0)#duplex 5 half
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.7. Config Uplink Electric Port Speed

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>speed &lt;port-list&gt; {10/100}</b>
<b>View</b>	GE view
<b>Description</b>	This command is used to set the Ethernet port rate that will make the port work in manual setting rate.
<b>&lt;port-list&gt;</b>	The port list to be set,format for 5,6-7,8.Port 1-4 is uplink optical port,it does not support the rate setting.the default rate of optical port and electric port both are 1000M.
<b>10/100</b>	10:10Mbps 100:100Mbps Caution:1000Mbps only support auto-negotiation.

#### 【Example】

**Example 1:** Set the rate of ge5 as 100Mbps.

```
OLT(config-interface-ge-0/0)#speed 5 100
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.8. Config Uplink Port MTU

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>mtu &lt;port-list&gt; &lt;mtu-value&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the mtu (Maximum Transmission Unit, MTU). The maximum transmission unit represents the size of the maximum transmission packet which transfers in the port for each unit time. The default value is 1500.
<b>&lt;port-list&gt;</b>	The port list to be set, format for 5,6-7,8.
<b>&lt;mtu-value&gt;</b>	The range of mtu: 328~16356. Particularly, the mtu upper limit of port supports 2048.

#### 【Example】

**Example 1:** Set the mtu of ge1 as 1600.

```
OLT(config-interface-ge-0/0)#mtu 1 1600
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.9. Delete Uplink Port MTU

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>no mtu &lt;port-list&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to reset the default value of the mtu.
<b>&lt;port-list&gt;</b>	The port list to be set, format for 5,6-7,8.

#### 【Example】

**Example 1:** Reset the mtu value of GE1 port to default 1500.

```
OLT(config-interface-ge-0/0)#no mtu 1
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.10. Config Uplink Port Flow-control Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>flow-control &lt;port-list&gt;{enable disable}</b>
----------------	---



<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the flow-control function of the Ethernet port.
<b>&lt;port-list&gt;</b>	The port list to be set,format for 5,6-7,8.
<b>{enable disable}</b>	enable:Enable the flow-control disable:Disable the flow-control

**【Example】**

**Example 1:** Enable the flow-control function of port GE5.

```
OLT(config-interface-ge-0/0)#flow-control 5 enable
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.11. Config Uplink Port MAC Address Learning Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>mac-address learning port &lt;port-list&gt; {enable disable}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the learning mac function of GE port.
<b>&lt;port-list&gt;</b>	The port list to be set,the range for 1-16,format for 5,6-7,8.
<b>{enable disable}</b>	Enable:Enable GE port's learning mac function. Disable:Disable GE port's learning mac function.

**【Example】**

**Example 1:** Enable GE1 port's learning mac function.

```
OLT(config-interface-ge-0/0)#mac-address learning port 1 enable
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.12. Show OLT Uplink Port Property and Status

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show port state {&lt;port-id&gt; all}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the status info of GE port.
<b>{&lt;port-id&gt; all}</b>	Port-ID:Port id to be show,range for 1-8

	All:Show the info of all the port
--	-----------------------------------

**【Example】**

**Example 1:** Show property and status of all the GE port.

```
OLT(config-interface-ge-0/0)#show port state all
-----
Port Optic Pvid Auto Speed Dup Flow Learn Enable Link Mtu
Status Nego/Mbps lex Ctrl
-----
ge0/0/1 absence 1 enable 1000 full on enable enable off 1500
ge0/0/2 absence 1 enable 1000 full on enable enable off 1500
ge0/0/3 absence 1 enable 1000 full on enable enable off 1500
ge0/0/4 absence 1 enable 1000 full on enable enable off 1500
ge0/0/5-1 enable 1000 full off enable enable off 1500
ge0/0/6-1 enable 1000 full off enable enable off 1500
ge0/0/7-1 enable 1000 full off enable enable off 1500
ge0/0/8-1 enable 1000 full off enable enable off 1500
-----
```

**Example 2:**Show property and status of GE1.

```
OLT(config-interface-ge-0/0)#show port state 1
ge0/0/1 information summary:
port name:epon1
current port state:enable
current link state:DOWN
The Maximum Transmit Unit:1500
The port 15 minute statistics status:enable
The port 24 hour statistics status:disable
Link speed:autonegotiation(1000 MBps)
link duplex:autonegotiation(FULL)
Flow-control:on
Maximum number of learned l2 entries:unlimited
broadcasts stormcontrol:148800(pps)
unknow multicasts stormcontrol:disable
unknow unicasts stormcontrol:disable
native-vlan:1
Port link-type:Access
Tagged VLAN ID:none
Untagged VLAN ID:
1
statistics from last clean(maybe the statistics would overflow):
Input(total):0 bytes
Input:unicast 0,broadcasts 0,multicasts 0,errors 0
Output(total):0 bytes
Output:unicast 0,broadcasts 0,multicasts 0,errors 0
```

```
OLT(config-interface-ge-0/0)#
```

### 9.1.13. Show OLT Uplink Port Optical Power Information

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show ddm-info &lt;port-id&gt;</b>
<b>View</b>	GE view
<b>Description</b>	This command is used to show optical power info of optical GE port
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-4

#### 【Example】

**Example 1:** Show the optical power info of optical port GE1.

```
OLT(config-interface-ge-0/0)#show ddm-info 1
```

```
-----
Temperature(C):37.6
Supply Voltage(V):3.32
TX Bias current(mA):32
TX power(dBm):-4.03
RX power(dBm):-15.49
-----
```

```
OLT(config-interface-ge-0/0)#
```

## 9.2. Uplink Port Mirror Manage

### 9.2.1. Config Uplink Port Mirror Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>mirror src-port &lt;src-port-id&gt; dst-port {ge/xge } &lt;F/S/P&gt; { all/egress/ingress}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the mirror function of the Ethernet port.When it is needed to copy the flow of a port to output in another port,or used to flow monitoring and network fault diagnosis,use this command.when the mirror function of the Ethernet port is set successfully,the message of specified direction in mirror source port will be completely copied to the destination mirror port.
<b>&lt;src-port-id&gt;</b>	The port list to be set,the range for 1-8
<b>ge/xge</b>	ge:Giga GE port xge:10gigabit XGE port

<F/S/P>	Destination mirror port id,range for 0/0/1-0/0/8.
all/egress/ingress	all:Mirror source port Tx and Rx two-way message.Tx and Rx message of mirror source is completely copied and output to destination mirror port. egress:Mirror source port Tx message.Completely copy and output the Tx message of mirror source port to the mirror destination port. ingress:Mirror source port Rx message.Completely copy and output the Rx message of mirror source port to mirror destination port.

**【Example】**

**Example 1:** Mirror both the ingress and egress message of the port GE3 to the port GE5.

```
OLT(config-interface-ge-0/0)#mirror src-port 3 dst-port ge 0/0/5 all
OLT(config-interface-ge-0/0)#
```

## 9.2.2. Delete Uplink Port Mirror Function

<b>Command</b>	OLT(config-interface-ge-0/0)#no mirror src-port<src-port-id>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to delete the mirror function configuration of the Ethernet port
<src-port-id>	Mirror source port id

**【Example】**

**Example 1:** Delete port GE3 mirror function configuration.

```
OLT(config-interface-ge-0/0)#no mirror src-port 3
OLT(config-interface-ge-0/0)#
```

## 9.2.3. Show Uplink Port Mirror Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)#show mirror
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the Ethernet port mirror function configuration info.

**【Example】**

**Example 1:** Show the GE port mirror function configuration info.

```
OLT(config-interface-ge-0/0)#show mirror
-----
```

```

Destination port:ge0/0/5

Source port Ingress Egress
ge0/0/3 Yes Yes
-----

OLT(config-interface-ge-0/0)#

```

### 9.3. Uplink Port Performance Statistics Function

#### 9.3.1. Config Uplink Port Performance Statistics Threshold

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>statistics port &lt;port-list&gt; threshold &lt;type&gt; &lt;upper-threshold&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the performance statistics threshold of GE port
<b>&lt;port-list&gt;</b>	The port list to be set,format for 5,6-7,8.
<b>&lt;type-ID&gt;</b>	<p>Range for 1-64,among which:</p> <ul style="list-style-type: none"> <li>1:rx-octets:Byte of receive message</li> <li>2:rx-frames:Frame of receive message</li> <li>3:rx-bcasts:Received broadcast message</li> <li>4:rx-mcasts:Received multicast message</li> <li>5:rx-64octets:The received message with 64 Bytes</li> <li>6:rx-65to127octets:The received message with 65-127 Bytes</li> <li>7:rx-128to255octets:The received message with 128-255 Bytes</li> <li>8:rx-256to511octets:The received message with 256-511 Bytes</li> <li>9:rx-512to1023octets:The received message with 512-1023 Bytes</li> <li>10:rx-1024to1518octets:The received message with 1024-1518 Bytes</li> <li>13:rx-oversizes:Oversize received packet</li> <li>20:rx-discards:The discard received message</li> <li>23:tx-octets:The Byte of transmit message</li> <li>24:tx-frames:Transmitted frame</li> <li>25:tx-bcasts:Transmitted broadcast packet</li> <li>26:tx-mcasts:Transmitted multicast packet</li> <li>27:tx-64octets:Transmitted packet with 64 bytes</li> <li>28:tx-65to127octets:Transmitted packet with 65-127 bytes</li> <li>29:tx-128to255octets:Transmitted packet with 128-255 bytes</li> <li>30:tx-256to511octets:Transmitted packet with 256-511 bytes</li> <li>31:tx-512to1023octets:Transmitted packet with 512-1023 bytes</li> <li>32:tx-1024to1518octets:Transmitted packet with 1024-1518 bytes</li> </ul>

	35:tx-oversizes:The oversize transmitted message 42:tx-discards:The discard transmitted message
<upper-threshold>	The upper limit of threshold,range for 0-4294967295
<lower-threshold>	The lower limit of threshold,range for 0-4294967295

**【Example】**

**Example 1 :** Set the received frame quantities of GE1 port statistics,upper limit for 50000,lower limit for 500.

```
OLT(config-interface-ge-0/0)#statistics port 1 threshold 35 50000 500
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.2. Show Uplink Port Performance Statistics Threshold

#### Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show statistics port &lt;port-id&gt; threshold</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the configuration of GE port performance statistics threshold
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

**【Example】**

**Example 1:** Show the configuration of GE1 performance statistics threshold

```
OLT(config-interface-ge-0/0)#show statistics port 1 threshold
```

```
TX oversize frames:upper:50000 lower:500
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.3. Clear Uplink Port Performance Statistics Infor

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>reset port statistics &lt;port-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to clear the performance statistics info of GE port
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

**【Example】**

**Example 1:** Clear the performance statistics info of GE1 port

```
OLT(config-interface-ge-0/0)#reset statistics port 1
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.4. Config Uplink Port Performance Statistics Period

#### 15minutes

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>statistics port &lt;port-list&gt; 15min {enable  disable}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable 15 minutes time interval function of GE port performance statistics
<b>&lt;port-list&gt;</b>	Port list to be set,format for 1,6-7,8
<b>enable   disable</b>	enable:Enable 15 minutes time interval performance statistics disable:Disable 15 minutes time interval performance statistics

**【Example】**

**Example 1:** Enable port GE1 15 minutes time interval performance statistics

```
OLT(config-interface-ge-0/0)#statistics port 1 15min enable
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.5. Config Uplink Port Performance Statistics Period 24H

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>statistics port&lt;port-list&gt; 24hour {enable  disable}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable 24 hours time interval function of GE port performance statistics
<b>&lt;port-list&gt;</b>	Port list to be set,format for 1,6-7,8
<b>{enable  disable } }</b>	enable:Enable 24 hours time interval performance statistics disable:Disable 24 hours time interval performance statistics

**【Example】**

**Example 1:** Enable port GE1 24 hours time interval performance statistics

```
OLT(config-interface-ge-0/0)#statistics port 1 24hour enable
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.6. Show Uplink Port Current 15min Performance Statistics

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show statistics port &lt;port-id&gt; current-15min</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the GE port performance statistics for current 15 minutes
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

#### 【Example】

**Example 1:** Show the port GE1 performance statistics for current 15 minutes

```
OLT(config-interface-ge-0/0)#show statistics port 1 current-15min
```

```
-----  
Start time of this interval:2000-01-04 16:39:56+08:00
```

```
Total elapsed seconds in this interval:237  
-----
```

```
RX octets:0  
RX frames:0  
RX unicast frames:0  
RX broadcast frames:0  
RX multicast frames:0  
RX discard frames:0  
RX error frames:0  
RX oversize frames:0  
RX frames 64 octets:0  
RX frames 65 to 127 octets:0  
RX frames 128 to 255 octets:0  
RX frames 256 to 511 octets:0  
RX frames 512 to 1023 octets:0  
RX frames 1024 to 1518 octets:0  
TX octets:0  
TX frames:0  
TX unicast frames:0  
TX broadcast frames:0  
TX multicast frames:0  
TX discard frames:0  
TX error frames:0  
TX oversize frames:0  
TX frames 64 octets:0  
TX frames 65 to 127 octets:0
```



```
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----
```

```
OLT(config-interface-ge-0/0)#
```

### 9.3.7. Show Uplink Port Current 24Hs Performance Statistics

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show statistics port &lt;port-id&gt; current-24hour</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the GE port performance statistics for current 24 hour
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

#### 【Example】

**Example 1:** Show the port GE1 performance statistics for current 24 hours.

```
OLT(config-interface-ge-0/0)#show statistics port 1 current-24hour
```

```
-----
Start time of this interval:2000-01-04 16:39:56+08:00
Total elapsed seconds in this interval:371
-----
```

```
RX octets:0
RX frames:0
RX unicast frames:0
RX broadcast frames:0
RX multicast frames:0
RX discard frames:0
RX error frames:0
RX oversize frames:0
RX frames 64 octets:0
RX frames 65 to 127 octets:0
RX frames 128 to 255 octets:0
RX frames 256 to 511 octets:0
RX frames 512 to 1023 octets:0
RX frames 1024 to 1518 octets:0
TX octets:0
TX frames:0
TX unicast frames:0
TX broadcast frames:0
```

```

TX multicast frames:0
TX discard frames:0
TX error frames:0
TX oversize frames:0
TX frames 64 octets:0
TX frames 65 to 127 octets:0
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----

```

```

OLT(config-interface-ge-0/0)#

```

### 9.3.8. Show Uplink Port History 15min Performance Statistics

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show statistics port &lt;port-id&gt; historic-15min &lt;interval-number&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the GE port the past 15min performance statistics info
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8
<b>&lt;interval-number&gt;</b>	Interval number,range for 1-96.That means time=15min*interval number.

#### 【Example】

**Example 1:** Show the port GE1 the past 15min performance statistics info

```

OLT(config-interface-ge-0/0)#show statistics port 1 historic-15min 1
-----

```

```

Start time of this interval:2000-01-04 16:39:56+08:00

```

```

Interval number of historical 15 minutes:1

```

```

The data for this interval is valid

```

```

Total monitored seconds in the historic interval:900
-----

```

```

RX octets:0

```

```

RX frames:0

```

```

RX unicast frames:0

```

```

RX broadcast frames:0

```

```

RX multicast frames:0

```

```

RX discard frames:0

```

```

RX error frames:0

```

```

RX oversize frames:0

```

```

RX frames 64 octets:0
RX frames 65 to 127 octets:0
RX frames 128 to 255 octets:0
RX frames 256 to 511 octets:0
RX frames 512 to 1023 octets:0
RX frames 1024 to 1518 octets:0
TX octets:0
TX frames:0
TX unicast frames:0
TX broadcast frames:0
TX multicast frames:0
TX discard frames:0
TX error frames:0
TX oversize frames:0
TX frames 64 octets:0
TX frames 65 to 127 octets:0
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----
OLT(config-interface-ge-0/0)#

```

### 9.3.9. Show Uplink Port History 24H Performance Statistics

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show statistics port &lt;port-id&gt; historic-24hour &lt;interval-number&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the GE port the past 24 hours performance statistics info
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8
<b>&lt;interval-number&gt;</b>	Interval number,range for 1-7.That means time=24h*interval number

**【Example】**

**Example 1:** Show the port GE1 the past 24 hours performance statistics info

```

OLT(config-interface-ge-0/0)#show statistics port 5 historic-24hour 1
The data for this interval is invalid!

OLT(config-interface-ge-0/0)#

```

## 9.4. Uplink Port Storm Control Function

### 9.4.1. Config Uplink Port Broadcast Storm Control Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>traffic-suppress &lt;port-id&gt; broadcast {enable   disable} pps &lt;value&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the broadcast storm suppression function and set the pulse value per second of the GE port.Preventing such information from occupying excessive network resources,resulting in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{enable   disable } }</b>	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function
<b>&lt;value&gt;</b>	The number of pulses per second,range for 1-1488100,unit for pps

#### 【Example】

**Example 1:** Enable GE1 broadcast storm suppression function and set the number of pulses per second as 14000pps.

```
OLT(config-interface-ge-0/0)#traffic-suppress 1 broadcast enable pps 14000
OLT(config-interface-ge-0/0)#
```

### 9.4.2. Config Uplink Port Unknown Multicast Storm Control Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>traffic-suppress &lt;port-id&gt; non-multicast {enable   disable} pps &lt;value&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the unknown multicast storm suppression function and pulse value per second of the GE port.Preventing such information from occupying excessive network resources,resulting in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{enable   disable } }</b>	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function

<b>&lt;value&gt;</b>	The number of pulses per second,range for 1-1488100,unit for pps
----------------------	--

**【Example】**

**Example 1:** Enable GE1 unknown multicast storm suppression function and set the number of pulses per second as 14000pps.

```
OLT(config-interface-ge-0/0)#traffic-suppress 1 non-multicast enable pps 14000

OLT(config-interface-ge-0/0)#
```

### 9.4.3. Config Uplink Port Unknown Unicast Storm Control

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>traffic-suppress &lt;port-id&gt; broadcast {enable   disable} pps &lt;value&gt;</b>
<b>view</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the unknown unicast storm suppression function and pulse value per second of the GE port.Preventing such information from occupying excessive network resources,resulting in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{enable   disable }</b>	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function
<b>&lt;value&gt;</b>	The number of pulses per second,range for 1-1488100,unit for pps

**【Example】**

**Example 1:** Enable GE1 unknown unicast storm suppression function and set the number of pulses per second as 14000pps.

```
OLT(config-interface-ge-0/0)#traffic-suppress 1 non-unicast enable pps 14000

OLT(config-interface-ge-0/0)#
```

## 9.5. Uplink Port Rate Limit Function

### 9.5.1. Config Uplink Port Upstream and Downstream Rate Limit

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>port-rate &lt;port-list&gt; {egress/ingress} &lt;rate&gt;</b>
<b>view</b>	XGE view or GE view
<b>Description</b>	This command is used to configure a rate limit for the port,with a rate limit on the downlink or uplink direction of the port.

<b>&lt;port-list&gt;</b>	Port list to be set,format for 1,6-7,8
<b>egress/ingress</b>	Egress:downlink Ingress:uplink
<b>&lt;rate&gt;</b>	Rate,range for 64-10240000,unit is Kbps.The default value without rate limit.

**【Example】**

**Example 1:** The GE1 port downstream rate limits as 102400

```
OLT(config-interface-ge-0/0)#port-rate 1 egress 102400
```

```
OLT(config-interface-ge-0/0)#
```

## 9.5.2. Delete Uplink Port Upstream and Downstream Rate Limit

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>no port-rate &lt;port-list&gt; {egress/ingress}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to delete the upstream and downstream rate limit of GE port
<b>&lt;port-list&gt;</b>	Port list to be set,format for 1,6-7,8
<b>egress/ingress</b>	Egress:downlink Ingress:uplink
<b>&lt;rate&gt;</b>	Rate,range for 64-10240000,unit is Kbps.

**【Example】**

**Example 1:** Delete the downstream rate limit of port GE1.

```
OLT(config-interface-ge-0/0)#no port-rate 1 egress
```

```
OLT(config-interface-ge-0/0)#
```

## 9.5.3. Show Uplink Port Upstream and Downstream Rate Limit

### Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show port-rate &lt;port-list&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the upstream and downstream rate limitation info of GE port

<code>&lt;port-list&gt;</code>	Port list to be set,format for 1,6-7,8
--------------------------------	--

**【Example】**

**Example 1:** Show the upstream and downstream rate limitation info of port GE1.

<pre>OLT(config-interface-ge-0/0)#show port-rate 1 Traffic shaping: ----- port egress ingress ge0/0/1 123000 0  OLT(config-interface-ge-0/0)#</pre>
---

## 9.6. Uplink Port Isolate Function

### 9.6.1. Config Uplink Port Isolate

<b>Command</b>	OLT(config-interface-ge-0/0)# <code>isolate &lt;port-list&gt;{ enable   disable }</code>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to enable or disable the function of GE port isolation. When port isolation is enabled, the port can not communicate with other ports. By default, it is disabled.
<code>&lt;port-list&gt;</code>	Port list to be set, format for 1,6-7,8
<code>{enable   disable } </code>	Enable: enable the port isolation Disable: disable the port isolation

**【Example】**

**Example 1:** Enable the port isolation of GE1.

<pre>OLT(config-interface-ge-0/0)#isolate 1 enable  OLT(config-interface-ge-0/0)#</pre>
---

### 9.6.2. Show Uplink Port Isolation Configuration Infor

<b>Command</b>	OLT(config-interface-ge-0/0)# <code>show port isolate</code>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the GE port isolation configuration info

**【Example】**

**Example 1:** Show the GE port isolation configuration info

```

OLT(config-interface-ge-0/0)#show port isolate
Isolate among pon port:
pon0/0/1 pon0/0/2 pon0/0/3 pon0/0/4 pon0/0/5
pon0/0/6 pon0/0/7 pon0/0/8 pon0/0/9 pon0/0/10
pon0/0/11 pon0/0/12 pon0/0/13 pon0/0/14 pon0/0/15
pon0/0/16
Isolate among uplink port:
ge0/0/1

OLT(config-interface-ge-0/0)#

```

## 9.7. Uplink Port RSTP Function

### 9.7.1. Config Uplink Port RSTP Cost

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>spanning-tree cost &lt;port-id&gt; &lt;cost&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set RSTP cost of the GE port. When there are several link and are not root port between two device, the optimal path is decided by port cost.
<b>&lt;port-id&gt;</b>	Port id to be set, range for 1-8
<b>&lt;cost&gt;</b>	Cost value, range for 1-200000000.

#### 【Example】

**Example 1:** Set the GE1 port RSTP cost as 2000.

```

OLT(config-interface-ge-0/0)#spanning-tree cost 1 2000

OLT(config-interface-ge-0/0)#

```

### 9.7.2. Config Uplink Port RSTP Edged-port

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>spanning-tree edged-port &lt;port-id&gt; {enable disable}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the RSTP edged-port of the GE port. If user specifies a port as edged-port, then when the port migrates forwarding status from congestion status, this port can migrate rapidly doing without waiting for delay time. The user can only set the port which is connected with the terminal as the edged-port. All ports are default to not edged-port.



<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{enable disable }</b>	enable:Set the port as edged-port disable:Set the port as not edged-port

**【Example】**

**Example 1:** Set the port GE1 as edged-port.

```
OLT(config-interface-ge-0/0)#spanning-tree edged-port 1 enable

OLT(config-interface-ge-0/0)#
```

### 9.7.3. Config Uplink Port RSTP Mcheck Property

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>spanning-tree mcheck &lt;port-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the RSTP mcheck property of GE port.Port mcheck property is used to detected whether the port which is running under STP compatible mode can migrate to RSTP mode.By setting mcheck,you can check whether there is a bridge running STP protocol within the network segment which is connected with current Ethernet port,If yes,RSTP protocol will migrate the protocol running mode of this port to STP mode.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8

**【Example】**

**Example 1:** Set the mcheck of GE1.

```
OLT(config-interface-ge-0/0)#spanning-tree mcheck 1

OLT(config-interface-ge-0/0)#
```

### 9.7.4. Config Uplink Port RSTP Point-to-Point Link Function

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>spanning-tree point-to-point &lt;port-id&gt; {auto/true/false}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set point-to-point link of GE port spanning tree.If bridge works in RSTP mode,two ports which is connected by p2p link can migrate to forwarding status by sending synchronization message,it reduces the needless transfer delay time,if set this parameter as auto-mode,RSTP protocol can detect whether current Ethernet port has connected with point-to-point link

	automatically.The user can set by manually whether current Ethernet port connects with the p2p link.The recommendation is auto-mode.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>auto/true/false</b>	auto:Set the point-to-point link as auto-mode true:Connect GE port to point-to-point link false:Disconnect GE port to point-to-point link

**【Example】**

**Example 1:** Set the point-to-point link function of GE1 as true.

```
OLT(config-interface-ge-0/0)#spanning-tree point-to-point 1 true
OLT(config-interface-ge-0/0)#
```

### 9.7.5. Config Uplink Port RSTP Priority

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>spanning-tree priority &lt;port-id&gt; &lt;port-priority&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the RSTP priority of GE port.By setting the priority of the Ethernet port,You can specify that a particular Ethernet port is contained within the spanning tree.Generally,the smaller of the setting value is,the higher of the port priority,this Ethernet port is likely to include in spanning tree.If all the Ethernet port of the bridge adapt to the same index number,the priority of the Ethernet port depends on the index number of the Ethernet port.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>&lt;port-priority&gt;</b>	Port priority,range for 0-240,step length for 16.the default is 128

**【Example】**

**Example 1:** Set the spanning tree priority of the GE1 as 160.

```
OLT(config-interface-ge-0/0)#spanning-tree priority 1 160
OLT(config-interface-ge-0/0)#
```

### 9.7.6. Show Uplink Port RSTP Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show port spanning-tree &lt;port-id&gt;</b>
<b>View</b>	XGE view or GE view

<b>Description</b>	This command is used to show the RSTP configuration info of the GE port.
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

**【Example】**

**Example 1:** Show the RSTP configuration info of the port GE1.

```
OLT(config-interface-ge-0/0)#show port spanning-tree 1
-----ge0/0/1 RSTP STATUS:-----
Port STP Mode:RSTP
Port Priority:128
Port Path Cost:20000
Port Edge Admin:NON-Edge
Port Edge Status:NEdge
Port Link Type Admin:Auto
Port Link Type Status:P2P
Port Role:Unknown
Port State:Down
-----

OLT(config-interface-ge-0/0)#
```

## 9.8. OLT Uplink Port VLAN Config

### 9.8.1. Config Uplink Port VLAN Mode

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>vlan mode &lt;port-id&gt;</b> <b>{access/hybrid/trunk}</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the vlan mode of GE port,the default is access mode.In each vlan mode,the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8.
<b>access/hybrid/trunk</b>	<p>Access:This kind of port only belongs to one vlan,generally it is used to connect to computer.</p> <p>Trunk:This kind of ports can allow multi vlan pass,can receive and transfer the message of different vlan.Usually,it is used to connect to the port between switches.</p> <p>Hybrid:This kind of port allows multiple vlan pass,can receive and transfer the message of different vlan.It can be used to connect the port between switch or connect to the PC.</p>

### 【Example】

**Example 1:** Set the vlan mode of GE1 as access.

```
OLT(config-interface-ge-0/0)#vlan mode 1 access

OLT(config-interface-ge-0/0)#
```

## 9.8.2. Config Uplink Port Native-vlan

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>vlan native-vlan &lt;port-list&gt; &lt;vlan-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set native vlan of the GE port. In each vlan mode, the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-list&gt;</b>	Port list to be set, range for 1-8, format for 1,2-3,4
<b>&lt;vlan-id&gt;</b>	VLAN ID, range for 1-4094.

### 【Example】

**Example 1:** Set the native vlan of the GE1 as 10.

```
OLT(config-interface-ge-0/0)#vlan native-vlan 1 10

OLT(config-interface-ge-0/0)#
```

## 9.8.3. Config Uplink Port Native-vlan Priority

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>vlan native-vlan-priority &lt;port-list&gt; &lt;priority&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the native vlan priority of the GE port, the default both are 0.
<b>&lt;port-list&gt;</b>	Port list to be set, range for 1-8, format for 1,2-3,4
<b>&lt;priority&gt;</b>	Priority, range for 0-7

### 【Example】

**Example 1:** Set the native vlan priority of the GE1 port as 1.

```
OLT(config-interface-ge-0/0)#vlan native-vlan-priority 1 1

OLT(config-interface-ge-0/0)#
```

## 9.8.4. Config Uplink Port Access Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>vlan access &lt;port-id&gt; &lt;vlan-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set Access vlan of the GE port,the default access vlan both are 1.In each vlan mode,the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>&lt;vlan-id&gt;</b>	Access VLAN ID,range for 1-4094

**【Example】**

**Example1:**Set the access vlan of the GE port as 100.

```
OLT(config-interface-ge-0/0)#vlan access 1 100

OLT(config-interface-ge-0/0)#
```

### 9.8.5. Config Uplink Port Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>vlan hybrid &lt;port-id&gt; {tagged untagged} &lt;vlan-list&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set hybrid vlan of the GE port,In each vlan mode,the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{tagged untagged}</b>	tagged:Add corresponding vlan tag for the output message untagged:Peel off corresponding vlan tag for output message
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.Format can be 1,11-27,100

**【Example】**

**Example 1:** Add hybrid vlan of GE1 as 10-15 untagged.

```
OLT(config-interface-ge-0/0)#vlan hybrid 1 untagged 10-15
ge0/0/1:hybrid vlan added,failed:0,success:6

OLT(config-interface-ge-0/0)#
```

**Example 2:**Add hybrid vlan of GE 1 as 101 tagged.

```
OLT(config-interface-ge-0/0)#vlan hybrid 1 tagged 101
ge0/0/1:hybrid vlan added,failed:0,success:1

OLT(config-interface-ge-0/0)#
```

### 9.8.6. Delete Uplink Port Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)#no vlan hybrid <port-id> {tagged   untagged} <vlan-list>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to delete the hybrid vlan of GE port. In each vlan mode, the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-id&gt;</b>	Port id to be set, range for 1-8
<b>{tagged   untagged}</b>	tagged: Add corresponding vlan tag for the output message untagged: Peel off corresponding vlan tag for output message
<b>&lt;vlan-list&gt;</b>	VLAN ID, range for 1-4094. Format can be 1, 11-27, 100

#### 【Example】

**Example 1:** Delete GE1 hybrid vlan 10-15 tagged.

```
OLT(config-interface-ge)#no vlan hybrid 1 tagged 10-15

OLT(config-interface-ge)#
```

### 9.8.7. Config Uplink Port Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)#vlan trunk <port-id> <vlan-list>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the trunk vlan of GE port. In each vlan mode, the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<b>&lt;port-id&gt;</b>	Port id to be set, range for 1-8
<b>&lt;vlan-list&gt;</b>	VLAN list, range for 1-4094. Format can be 1, 11-27, 100

#### 【Example】

**Example 1:** Set GE1 trunk vlan as 10-15.

```
OLT(config-interface-ge-0/0)#vlan trunk 1 10-15
ge0/0/1:trunk vlan allowed,failed:0,success:6

OLT(config-interface-ge-0/0)#
```

### 9.8.8. Delete Uplink Port Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)#no vlan trunk <port-id> <vlan-list>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to delete the trunk vlan of GE port.In each vlan mode,the message processing way of the port is shown in <a href="#">Appendix 1</a> .
<port-id>	Port id to be delete,range for 1-8
<vlan-list>	VLAN list,range for 1-4094.Format can be 1,11-27,100

**【Example】**

**Example 1:** Delete GE1 trunk vlan 10-15.

```
OLT(config-interface-ge-0/0)#no vlan trunk 1 10-15
OLT(config-interface-ge-0/0)#
```

### 9.8.9. Config Uplink Port Translate Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)#vlan translate <port-list> <old-vlan> <new-vlan> <new-priority>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to set the translate vlan of GE port.In the direction of upstream,it will transfer the old vlan into new vlan and update to new priority.
<port-list>	Port list to be set,range for 1-8
<old-vlan>	Old vlan id,range for 1-4094
<new-vlan>	New VLAN ID,range for 1-4094
<new-priority>	New vlan priority,range for 0-7

**【Example】**

**Example 1:** Translate the GE1's old vlan 10 into new vlan 11 and the new priority translates into 3.

```
OLT(config-interface-ge-0/0)#vlan translate 1 10 11 3
OLT(config-interface-ge-0/0)#
```

### 9.8.10. Delete Uplink Port Translate Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)#no vlan translate <port-list> <vlan-id>
<b>View</b>	XGE view or GE view

<b>Description</b>	This command is used to delete the translate vlan of GE port.
<b>&lt;port-list&gt;</b>	Port id to be delete,range for 1-8
<b>&lt;vlan-id&gt;</b>	VLAN id,range for 1-4094.

**【 Example 】**

**Example 1:** Delete the GE1 translate vlan 10.

```
OLT(config-interface-ge-0/0)#no vlan translate 1 10
```

```
OLT(config-interface-ge-0/0)#
```

### 9.8.11. Config Uplink Port Protocol VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>protocol-vlan &lt;protocol-index&gt; {add/delete} port &lt;port-list&gt; &lt;vlan-ID&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to bind a protocol vlan index for the port and port vlan,firstly it's need to create a protocol vlan.
<b>&lt;protocol-index&gt;</b> <b>&gt;</b>	Protocol vlan index,range for 1-16
<b>add/delete</b>	add:Add vlan delete>Delete vlan
<b>&lt;port-list&gt;</b>	Port list to be set,format for 1,6-7,8
<b>&lt;vlan-ID&gt;</b>	VLAN ID,range for 1-4094

**【 Example 】**

**Example 1:** Bind GE1 to protocol vlan index 1 and add into vlan 100.

```
OLT(config-interface-ge-0/0)#protocol-vlan 1 add port 1 100
```

```
OLT(config-interface-ge-0/0)#
```

### 9.8.12. Show OLT Uplink Port VLAN Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show port vlan &lt;port-id&gt;</b>
<b>View</b>	XGE view or GE view
<b>Description</b>	This command is used to show the vlan info of GE port.
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-8

**【 Example 】**



**Example 1:** Show vlan info of port GE1.

```
OLT(config-interface-ge-0/0)#show port vlan 1
```

```
-----  
Port:ge0/0/1 Mode:Access Native-Vlan:1 Priority:0  
-----
```

```
Tagged-Vlan:
```

```
-  
-----
```

```
Untagged-Vlan:
```

```
1  
-----
```

```
OLT(config-interface-ge-0/0)#
```

## 10. OLT PON Port Configuration

### 10.1. OLT PON Port Property Config

#### 10.1.1. Disable PON Port

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>shutdown</b> <port-list>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to disable the specified pon port.
<port-list>	Port list to be set,range for 1-16,format for 1,3-5,8

**【Example】**

**Example 1:** Disable pon port 1-3.

```
OLT(config-interface-epon-0/0)#shutdown 1-3
```

```
OLT(config-interface-epon-0/0)#
```

**Example 2:**Disable pon port 5 and 7.

```
OLT(config-interface-epon-0/0)#shutdown 5,7
```

```
OLT(config-interface-epon-0/0)#
```

#### 10.1.2. Enable PON Port

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no shutdown</b> <port-list>
<b>View</b>	EPON interface view

<b>Description</b>	This command is used to enable the specified pon port
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,3-5,8

**【Example】**

**Example 1:** Enable pon port 1-3.

```
OLT(config-interface-epon-0/0)#no shutdown 1-3
```

```
OLT(config-interface-epon-0/0)#
```

**Example 2:**Enable pon port 5 and 7.

```
OLT(config-interface-epon-0/0)#no shutdown 5,7
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.3. Config PON Port Name

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>port-name &lt;port-id&gt; &lt;name&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the name of pon port which is convenient for user to management
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16
<b>&lt;name&gt;</b>	Port name to be set

**【Example】**

**Example 1:** Set the name of pon port as test.

```
OLT(config-interface-epon-0/0)#port-name 1 test
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.4. Delete PON Port Name

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no port-name &lt;port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to reset the name of pon port to default value.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16

**【Example】**

**Example 1:** Reset the name of pon1 to default value.

```
OLT(config-interface-epon-0/0)#no port-name 1
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.5. Config PON Port MTU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>mtu &lt;port-list&gt; &lt;mtu-value&gt;</b>
<b>view</b>	EPON interface view
<b>Description</b>	This command is used to set the mtu (Maximum Transmission Unit, MTU). The maximum transmission unit represents the size of the maximum transmission packet which transfers in the port for each unit time. The default value is 1500.
<b>&lt;port-list&gt;</b>	Port list to be set, range for 1-16, format for 1,3-5,8
<b>&lt;mtu-value&gt;</b>	The range of mtu is 328~2048. Specifically, the max mtu value of pon port is 2048.

#### 【Example】

**Example 1:** Set mtu value of pon 1 as 1600.

```
OLT(config-interface-epon-0/0)#mtu 1 1600
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.6. Delete PON Port MTU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no mtu &lt;port-list&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to restore the pon port's mtu value as default 1500.
<b>&lt;port-list&gt;</b>	Port list to be set, range for 1-16, format for 16-7,8

#### 【Example】

**Example 1:** Restore the mtu value of pon1 as default 1500.

```
OLT(config-interface-epon-0/0)#no mtu 1
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.7. Config PON Port Encrypt Mode and Key-exchange-time

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>port encrypt &lt;port-list&gt; mode {aes-128/disable/triple-churning} key-exchange-time &lt;time&gt;</b>
----------------	---

<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the encrypt mode and key-exchange-time.The default is not encrypted.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>aes-128/disable/triple-churning</b>	aes-128:An encrypted mode disable:Disable port encrypting function triple-churning:An encrypted mode
<b>&lt;time&gt;</b>	Key exchange time,range for 1-708,unit is second.It is optional.

**【Example】**

**Example 1:** Set pon 1 encryption mode as aes-128

```
OLT(config-interface-epon-0/0)#port encrypt 1 mode aes-128
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.8. Config PON Port Flow-control Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>flow-control &lt;port-list&gt; {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the flow-control function of pon port.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable   disable }</b>	enable:Enable flow-control function of pon port disable:Disable flow-control function of pon port

**【Example】**

**Example 1:** Enable pon1 flow-control function.

```
OLT(config-interface-epon-0/0)#flow-control 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.9. Config Pon Port MAC Address Learning Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>mac-address learning port &lt;port-list&gt; {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set pon port mac address learning function

<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable disable }</b>	Enable:Enable pon port mac address learning function Disable:Disable pon port mac address learning function

**【Example】**

**Example 1:** Enable pon1 mac address learning function

```
OLT(config-interface-epon-0/0)#mac-address learning port 1 enable

OLT(config-interface-epon-0/0)#
```

### 10.1.10. Show OLT PON Port Property and Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show port state {&lt;port-id&gt;/all}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the property info of pon port
<b>&lt;port-id&gt;/all</b>	Port-ID:Port id to be show,range for 1-16 All:Show the property info of all the pon port

**【Example】**

**Example 1:** Show the property info of all the pon port

```
OLT(config-interface-epon-0/0)#show port state all

-----
F/S P Pvid Flow MAC Enable ONU MTU Link Auto Bandwidth Auth
Ctrl Learn State Isolate Find(Kbps)Mode
-----

0/0 1 1 on en en en 1500 off en 1000000 auto
0/0 2 1 on en en en 1500 off en 1000000 auto
0/0 3 1 on en en en 1500 off en 1000000 loid
0/0 4 1 on en en en 1500 off en 1000000 auto
0/0 5 1 on en en en 1500 off en 1000000 auto
0/0 6 1 on en en en 1500 off en 1000000 auto
0/0 7 1 on en en en 1500 off en 1000000 auto
0/0 8 1 on en en en 1500 off en 1000000 auto
0/0 9 1 on en en en 1500 off en 1000000 auto
0/0 10 1 on en en en 1500 off en 1000000 auto
0/0 11 1 on en en en 1500 off en 1000000 mac
0/0 12 1 on en en en 1500 off en 1000000 auto
0/0 13 1 on en en en 1500 off en 1000000 auto
0/0 14 1 on en en en 1500 off en 1000000 auto
0/0 15 1 on en en en 1500 off en 1000000 auto
0/0 16 1 on en en en 1500 off en 1000000 auto
```

```
-----  
OLT(config-interface-epon-0/0)#
```

**Example 2:**Show the property info of pon1.

```
OLT(config-interface-epon-0/0)#show port state 1
```

```
-----  
Frame/Slot:0/0  
Port:1  
Port Name:pon0/0/1  
Enable state:Enable  
Encrpyt state:Disable  
Key exchange time:-  
ONU isolate state:Enable  
Optical Module status:Normal  
Link state:Down  
Auto find:Enable  
Auth Mode:auto  
Policy Auth:Disable  
Available bandwidth:1000000(Kbps)  
  
Native vlan:1  
Maximum Transmit Unit:1500  
Flow-control:On  
Maximum learned l2 entries:unlimited  
Broadcast storm control:disable  
Unknow multicast storm control:disable  
Unknown unicast storm control:disable  
Port 15 minute statistics status:enable  
Port 24 hour statistics status:enable  
-----
```

```
OLT(config-interface-epon-0/0)#
```

### 10.1.11. Show OLT PON Port Optical Power Information

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show port ddm-info</b> <port-id>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show configuration info of pon port such as optical power,optical module temperature,voltage,serial number and etc.
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-16

**【Example】**

**Example 1:** Show optical power info of pon1.

```

OLT(config-interface-epon-0/0)#show port ddm-info 1
-----
Temperature(C):41.9
Supply Voltage(V):3.32
TX Bias current(mA):11
TX power(dBm):4.66
RX power(dBm):-
-----
Vendor:T&W
Product name:TW5441H-C3AL
Version:1.0
Serial number:85165803D
-----
OLT(config-interface-epon-0/0)#

```

## 10.2. Config OLT PON Port Detect ONU Long Laser Function

### 10.2.1. Config Auto Detect ONU Long Laser Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>anti-rogueont auto-detect &lt;port-id&gt; {on/off}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable the function of pon port automatic detecting onu long laser.In the case of enabling,when the onu appears long laser,olt will deliver an alarm info.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16,format for 1,6-7,8
<b>on/off</b>	on:Enable pon port automatic detecting onu long laser off:Disable pon port automatic detecting onu long laser

**【Example】**

**Example 1:** Enable pon1 automatic detecting onu long laser

```

OLT(config-interface-epon-0/0)#anti-rogueont auto-detect 1 on

OLT(config-interface-epon-0/0)#

```

### 10.2.2. Config Manual Detect ONU Long Laser Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>anti-rogueont manual-detect &lt;port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the pon port to detect the onu long laser by manually.The pon port start to detect onu long laser after executing this command.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16,format for 1,6-7,8

**【Example】**

**Example 1:** Set pon1 manually detecting onu long laser.

```
OLT(config-interface-epon-0/0)#anti-rogueont manual-detect 1
```

```
OLT(config-interface-epon-0/0)#
```

### 10.2.3. Show Detect ONU Long Laser Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show anti-rogueont auto-detect &lt;port-id&gt; status</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the configuration info that pon port automatically detects onu long laser.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16,format for 1,6-7,8

**【Example】**

**Example 1:** Show the configuration info that pon1 automatically detects the onu long laser.

```
OLT(config-interface-epon-0/0)#show anti-rogueont auto-detect 1 status
```

```
-----  
Detetion switch:off
```

```
Detetion interval:15(min)  
-----
```

```
OLT(config-interface-epon-0/0)#
```

## 10.3. Config OLT PON Port Mirror Function

### 10.3.1. Config Pon Port Mirror Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>mirror src-port &lt;src-port-id&gt; dst-port {ge/xge} &lt;F/S/P&gt; { all/egress/ingress}</b>
----------------	--



<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the mirror function of the pon port. When it is needed to copy and output the flow of some pon port to other GE port or used to flow detection, network fault diagnosis and data analysis, use this command. When the pon port mirror is set successfully, the specified message of source mirror port will be completely copied to destination mirror port.
<b>&lt;src-port-id&gt;</b>	Source mirror port to be set, range for 1-16
<b>ge/xge</b>	ge: Giga GE port xge: 10Giga GE port
<b>&lt;F/S/P&gt;</b>	Destination mirror port id, range for 0/0/1-0/0/8.
<b>all/egress/ingress</b>	all: Tx and Rx double direction message of source mirror port. Completely copy and output the rx and tx message of source mirror port to the destination mirror port. egress: The tx message of source mirror port. Completely copy and output the tx message of source mirror port to destination mirror port. ingress: The rx message of source mirror port. Completely copy and output the rx message of source mirror port to destination mirror port.

**【 Example 】**

**Example 1:** Mirror the egress and ingress message of pon1 to GE5.

```
OLT(config-interface-epon-0/0)#mirror src-port 1 dst-port ge 0/0/5 all
OLT(config-interface-epon-0/0)#
```

### 10.3.2. Delete PON Port Mirror Function

<b>Description</b>	OLT(config-interface-epon-0/0)# <b>no mirror src-port &lt;src-port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to cancel the pon port mirror setting.
<b>&lt;src-port-id&gt;</b>	Source mirror port id, range for 1-16

**【 Example 】**

**Example 1:** Cancel pon1 mirror setting.

```
OLT(config-interface-epon-0/0)#no mirror src-port 1
OLT(config-interface-epon-0/0)#
```

### 10.3.3. Show PON Port Mirror Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show mirror</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the pon port mirror setting info.

#### 【Example】

**Example 1:** Show mirror setting info.

<pre>OLT(config-interface-epon-0/0)#show mirror ----- Destination port:ge0/0/5  Source port Ingress Egress ge0/0/2 Yes Yes pon0/0/1 Yes Yes -----  OLT(config-interface-epon-0/0)#</pre>	
--	--

## 10.4. OLT PON Port Performance Statistics Function

### 10.4.1. Config PON Port Performance Statistics Period 15min

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>statistics port &lt;port-list&gt;15min {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set time interval of pon port performance statistic as 15min.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable   disable }</b>	enable:Enable 15min performance statistics disable:Disable 15min performance statistics

#### 【Example】

**Example 1:** Enable pon1 15min performance statistics function.

<pre>OLT(config-interface-epon-0/0)#statistics port 1 15min enable  OLT(config-interface-epon-0/0)#</pre>	
---	--

### 10.4.2. Config PON Port Performance Statistics Period 15H

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>statistics port &lt;port-list&gt; 24hour {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable the 24h time interval performance statistics of pon port.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable   disable }</b>	enable:Enable 24h performance statistics disable:Disable 24h performance statistics

**【Example】**

**Example 1:** Enable pon1 24h time interval performance statistics function.

```
OLT(config-interface-epon-0/0)#statistics port 1 24hour enable
```

```
OLT(config-interface-epon-0/0)#
```

### 10.4.3. Config PON Port Performance Statistics Threshold

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>statistics port &lt;port-list&gt; threshold &lt;type&gt; &lt;upper-threshold&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the threshold of pon port performance statistics.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>&lt;type-ID&gt;</b>	Range can be 1-64,among which: 1:rx-octets:Byte of received message 2:rx-frames:Frame of received message 3:rx-bcasts:The received broadcast message 4:rx-mcasts:The received multicast message 5:rx-64octets:The received frame packet length for 64 bytes 6:rx-65to127octets:The received frame packet length for 65-127 bytes 7:rx-128to255octets:The received frame packet length for 128-255 bytes 8:rx-256to511octets:The received frame packet length for 256-511 bytes 9:rx-512to1023octets:The received frame packet length for 512-1023 bytes 10:rx-1024to1518octets:The received frame packet length for 1024-1518 bytes

	<p>13:rx-oversizes:The oversize received packet</p> <p>20:rx-discards:The discarded message at receiving</p> <p>23:tx-octets:The byte of transmitted message</p> <p>24:tx-frames:The frame of transmitted message</p> <p>25:tx-bcasts:The transmitted broadcast packet</p> <p>26:tx-mcasts:The transmitted multicast packet</p> <p>27:tx-64octets:The transmitted frame packet length for 64 bytes</p> <p>28:tx-65to127octets:The transmitted frame packet length for 65-127 bytes</p> <p>29:tx-128to255octets:The transmitted frame packet length for 128-255 bytes</p> <p>30:tx-256to511octets:The transmitted frame packet length for 256-511 bytes</p> <p>31:tx-512to1023octets:The transmitted frame packet length for 512-1023 bytes</p> <p>32:tx-1024to1518octets:The transmitted frame packet length for 1024-1518 bytes</p> <p>35:tx-oversizes:The oversize transmitted packet</p> <p>42:tx-discards:The discarded packet at transmitting</p>
<upper-threshold d>	Upper limit threshold,range for 0-4294967295
<lower-threshold d>	Lower limit of threshold,range for 0-4294967295

**【 Example 】**

**Example 1:** Set the pon port statistics received frame quantity upper limit and lower limit as 50000 and 500.

```
OLT(config-interface-epon-0/0)#statistics port 1 threshold 35 50000 500
OLT(config-interface-epon-0/0)#
```

#### 10.4.4. Clear PON Port Performance Statistics Infor

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>reset statistics port &lt;port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to clear the pon port performance statistics info.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1,6-7.8

**【 Example 】**

**Example 1:** Clear pon1 performance statistics info.

```
OLT(config-interface-epon-0/0)#reset statistics port 1
```

```
OLT(config-interface-epon-0/0)#
```

### 10.4.5. Show PON Port Current 15min Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show statistics port &lt;port-id&gt; current-15min</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show current 15min statistics info of pon port.
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-16.

#### 【Example】

**Example 1:** Show current 15min statistics info of pon1.

```
OLT(config-interface-epon-0/0)#show statistics port 1 current-15min
```

```
-----  
Start time of this interval:2000-01-01 08:59:05+08:00
```

```
Total elapsed seconds in this interval:619  
-----
```

```
RX octets:0  
RX frames:0  
RX unicast frames:0  
RX broadcast frames:0  
RX multicast frames:0  
RX discard frames:0  
RX error frames:0  
RX oversize frames:0  
RX frames 64 octets:0  
RX frames 65 to 127 octets:0  
RX frames 128 to 255 octets:0  
RX frames 256 to 511 octets:0  
RX frames 512 to 1023 octets:0  
RX frames 1024 to 1518 octets:0  
TX octets:0  
TX frames:0  
TX unicast frames:0  
TX broadcast frames:0  
TX multicast frames:0  
TX discard frames:0  
TX error frames:0  
TX oversize frames:0
```

```

TX frames 64 octets:0
TX frames 65 to 127 octets:0
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----

```

```

OLT(config-interface-epon-0/0)#

```

### 10.4.6. Show PON Port Current 24Hs Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show statistics port &lt;port-id&gt; current-24hour</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show current 24h statistics info of pon port
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16

#### 【Example】

**Example 1:** Show current 24h statistics info of pon 1.

```

OLT(config-interface-epon-0/0)#show statistics port 1 current-24hour
-----

```

```

Start time of this interval:2000-01-01 09:00:23+08:00

```

```

Total elapsed seconds in this interval:724
-----

```

```

RX octets:0
RX frames:0
RX unicast frames:0
RX broadcast frames:0
RX multicast frames:0
RX discard frames:0
RX error frames:0
RX oversize frames:0
RX frames 64 octets:0
RX frames 65 to 127 octets:0
RX frames 128 to 255 octets:0
RX frames 256 to 511 octets:0
RX frames 512 to 1023 octets:0
RX frames 1024 to 1518 octets:0
TX octets:0
TX frames:0
TX unicast frames:0

```

```

TX broadcast frames:0
TX multicast frames:0
TX discard frames:0
TX error frames:0
TX oversize frames:0
TX frames 64 octets:0
TX frames 65 to 127 octets:0
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----
OLT(config-interface-epon-0/0)#

```

### 10.4.7. Show PON Port History 15min Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show statistics port &lt;port-id&gt; historic-15min &lt;interval-number&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show performance statistics of pon port over the past 15min
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16
<b>&lt;interval-number&gt;</b>	Interval number,range for 1-96.Each interval for 15min,so the time=15min*interval number.

**【Example】**

**Example 1:** Show the past 15min statistics info of pon1.

```

OLT(config-interface-epon-0/0)#show statistics port 1 historic-15min 1
-----
Start time of this interval:2000-01-01 08:59:05+08:00
Interval number of historical 15 minutes:1
The data for this interval is valid
Total monitored seconds in the historic interval:900
-----
RX octets:0
RX frames:0
RX unicast frames:0
RX broadcast frames:0
RX multicast frames:0
RX discard frames:0
RX error frames:0

```

```

RX oversize frames:0
RX frames 64 octets:0
RX frames 65 to 127 octets:0
RX frames 128 to 255 octets:0
RX frames 256 to 511 octets:0
RX frames 512 to 1023 octets:0
RX frames 1024 to 1518 octets:0
TX octets:0
TX frames:0
TX unicast frames:0
TX broadcast frames:0
TX multicast frames:0
TX discard frames:0
TX error frames:0
TX oversize frames:0
TX frames 64 octets:0
TX frames 65 to 127 octets:0
TX frames 128 to 255 octets:0
TX frames 256 to 511 octets:0
TX frames 512 to 1023 octets:0
TX frames 1024 to 1518 octets:0
-----
OLT(config-interface-epon-0/0)#

```

### 10.4.8. Show PON Port History 24H Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show statistics port &lt;port-id&gt; historic-24hour &lt;interval-number&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the performance statistics of PON over the past 24 hours.
<b>&lt;port-id&gt;</b>	Port id to be show,range for 1-16.
<b>&lt;interval-number&gt;</b>	Interval number,range for 1-7.Each interval for 24h,so the time=24h*interval number.

**【Example】**

**Example 1:** Show the performance statistics of pon1 over the past 24h.

```

OLT(config-interface-epon-0/0)#show statistics port 1 historic-24hour 1
The data for this interval is invalid!

OLT(config-interface-epon-0/0)#

```



## 10.4.9. Show PON Port Performance Statistics Threshold

### Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show statistics port &lt;port-id&gt; threshold</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the threshold configuration of pon port performance statistics
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16.

#### 【Example】

**Example 1:** Show threshold configuration of pon1 performance statistics.

```
OLT(config-interface-epon-0/0)#show statistics port 1 threshold
TX oversize frames:upper:50000 lower:500

OLT(config-interface-epon-0/0)#
```

## 10.5. OLT PON Port Storm Control Function

### 10.5.1. Config PON Port Broadcast Storm Control Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>traffic-suppress &lt;port-id&gt; broadcast {enable disable} pps &lt;value&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable broadcast storm suppression function and set the pulse number per second of pon port.Preventing such message from occupying excessive network source to result in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16
<b>{enable disable }</b>	Enable:Enable broadcast storm suppression function of pon port disable:Disable broadcast storm suppression function of pon port
<b>&lt;value&gt;</b>	Pulse number per second,range for 1-1488100,unit is pps

#### 【Example】

**Example 1:** Enable broadcast storm suppression function of pon1 and set the pulse number as 14000 pps.

```
OLT(config-interface-epon-0/0)#traffic-suppress 1 broadcast enable pps 14000
```

```
OLT(config-interface-epon-0/0)#
```

## 10.5.2. Config PON Port Unknown Multicast Storm Control

### Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>traffic-suppress &lt;port-id&gt; non-multicast {enable   disable} pps&lt;value&gt;</b>
<b>View</b>	PON view
<b>Description</b>	This command is used to enable or disable unknown multicast storm suppression function of pon port and set pulse number per second.preventing such message from occupying excessive network source to result in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16.
<b>{enable   disable }</b>	Enable:Enable unknown multicast storm suppression function of pon port disable:Disable unknown multicast storm suppression function of pon port
<b>&lt;value&gt;</b>	Pulse number per second,range for 1-1488100,unit is pps

#### 【Example】

**Example 1:** Enable unknown multicast storm suppression function of pon1 and set the pulse number as 14000 pps.

```
OLT(config-interface-epon-0/0)#traffic-suppress 1 non-multicast enable pps 14000
```

```
OLT(config-interface-epon-0/0)#
```

## 10.5.3. Config PON Port Unknown Unicast Storm Control

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>traffic-suppress &lt;port-id&gt; broadcast {enable   disable} pps &lt;value&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable unknown unicast storm suppression function of pon port and set pulse number per second.preventing such message from occupying excessive network source to result in network congestion.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-16.

<b>{enable disable}</b> <b>}</b>	Enable:Enable unknown unicast storm suppression function of pon port disable:Disable unknown unicast storm suppression function of pon port
<b>&lt;value&gt;</b>	Pulse number per second,range for 1-1488100,unit is pps

**【Example】**

**Example1:**Enable unknown unicast storm suppression function of pon1 and set the pulse number as 14000 pps.

```
OLT(config-interface-epon-0/0)#traffic-suppress 1 non-unicast enable pps 14000
```

```
OLT(config-interface-epon-0/0)#
```

## 10.6. OLT PON Port Rate Limit Function

### 10.6.1. Config PON Port Egress and Ingress Rate Limit

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>port-rate &lt;port-list&gt; {egress/ingress}</b> <b>&lt;rate&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set a rate limitation value for egress or ingress message of pon port.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>egress/ingress</b>	Egress:Downstream direction Ingress:Upstream direction
<b>&lt;rate&gt;</b>	Rate,range for 64-10240000,unit is Kbps.Pon port is without limitation by default

**【Example】**

**Example 1:** Limit downstream rate of pon1 as 102400Kbps.

```
OLT(config-interface-epon-0/0)#port-rate 1 egress 102400
```

```
OLT(config-interface-epon-0/0)#
```

### 10.6.2. Delete PON Port Egress and Ingress Rate Limit

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no port-rate &lt;port-list&gt;</b> <b>{egress/ingress}</b>
<b>View</b>	EPON interface view

<b>Description</b>	This command is used to cancel rate limitation of pon port.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{egress/ingress}</b>	Egress:downstream Ingress:upstream
<b>&lt;rate&gt;</b>	Rate,range for 64-10240000,unit is Kbps.Pon port is without limitation by default

**【Example】**

**Example 1:** Cancel downstream rate limitation of pon1.

```
OLT(config-interface-epon-0/0)#no port-rate 1 egress
OLT(config-interface-epon-0/0)#
```

### 10.6.3. Show PON Port Egress and Ingress Rate Limit Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show port-rate &lt;port-list&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show upstream and downstream rate limited configuration info of pon port
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8

**【Example】**

**Example 1:** Show upstream and downstream rate limited configuration of pon1.

```
OLT(config-interface-epon-0/0)#show port-rate 1
Traffic shaping:
-----
port egress ingress
pon0/0/1 0 0

OLT(config-interface-epon-0/0)#
```

## 10.7. OLT PON Port Isolate Function

### 10.7.1. Config PON Port Isolate

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>isolate &lt;port-list&gt; {enable disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable the isolating function

	between port to port.The port can not communicate with other port when the isolating function is enabled.The default is enabled.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable   disable }</b>	Enable:Enable port to port isolating function Disable:Disable port to port isolating function

**【Example】**

**Example 1:** Enable isolating function of pon1.

```
OLT(config-interface-epon-0/0)#isolate 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 10.7.2. Config PON Port Ont-isolate Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont-isolate &lt;port-list&gt; {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable ont-isolate function of pon port.The ont that located in the same pon port can not communicate with each other when ont-isolate function is enabled.By default it is enabled.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{enable   disable }</b>	Enable:Enable ont-isolate function Disable:Disable ont-isolate function

**【Example】**

**Example 1:** Disable ont-isolate function of pon1.

```
OLT(config-interface-epon-0/0)#ont-isolate 1 disable
```

```
OLT(config-interface-epon-0/0)#
```

### 10.7.3. Show PON Port Isolation Configuration Info

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show port isolate</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show isolating configuration info of pon port.

**【Example】**

**Example1:**Show isolating configuration info of pon port

```
OLT(config-interface-epon-0/0)#show port isolate
Isolate among pon port:
pon0/0/1 pon0/0/2 pon0/0/3 pon0/0/4 pon0/0/5
pon0/0/6 pon0/0/7 pon0/0/8 pon0/0/9 pon0/0/10
pon0/0/11 pon0/0/12 pon0/0/13 pon0/0/14 pon0/0/15
pon0/0/16
Isolate among uplink port:
ge0/0/1

OLT(config-interface-epon-0/0)#
```

## 10.8. OLT PON Port VLAN Config

### 10.8.1. Config PON Port VLAN Mode

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan mode &lt;port-list&gt; {access/hybrid/trunk}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set vlan mode of pon port.The default is access mode.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>access/hybrid/trunk</b>	Access:This kind of port only belongs to one vlan,generally it is used to connect to the computer Trunk:This kind of port allows to several vlan passing,it can receive and transmit different vlan message,generally,it is used to connect to the port between Switch. Hybrid:This kind of port allows to several vlan passing,it can receive and transmit different vlan message,generally,it is used to connect to the port between Switch or connect to computer.

**【 Example 】**

**Example 1:** Set the vlan mode of pon1 as access.

```
OLT(config-interface-epon-0/0)#vlan mode 1 access

OLT(config-interface-epon-0/0)#
```

### 10.8.2. Config PON Port Native-vlan

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan native-vlan &lt;port-list&gt;</b>
----------------	---

	<b>&lt;vlan-ID&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set native vlan of pon port,the default native vlan is 1.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>&lt;vlan-ID&gt;</b>	VLAN ID,range for 1-4094

**【Example】**

**Example 1:** Set the native vlan of pon1 as 10.

```
OLT(config-interface-epon-0/0)#vlan native-vlan 1 10
OLT(config-interface-epon-0/0)#
```

### 10.8.3. Config PON Port Native-vlan Priority

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan native-vlan-priority &lt;port-list&gt; &lt;priority&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the native vlan priority of pon port,the default is 0.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>&lt;priority&gt;</b>	Priority,range for 0-7

**【Example】**

**Example 1:** Set native vlan of pon1 as 1.

```
OLT(config-interface-epon-0/0)#vlan native-vlan-priority 1 1
OLT(config-interface-epon-0/0)#
```

### 10.8.4. Config PON Port Access Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan access &lt;port-list&gt; &lt;vlan-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set access vlan of pon port,the default access vlan is 1.The processing way to message of the port is shown on <a href="#">Appendix 1</a>

<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>&lt;vlan-id&gt;</b>	Access VLAN ID,range for 1-4094

**【Example】**

**Example 1:** Set the access vlan of pon1 as 100.

```
OLT(config-interface-epon-0/0)#vlan access 1 100
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.5. Config PON Port Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan hybrid &lt;port-list&gt; &lt;{tagged   untagged}&gt; &lt;vlan-list&gt;</b>
<b>View</b>	PON view
<b>Description</b>	This command is used to set hybrid vlan of pon port.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>{tagged   untagged}</b>	tagged:Add vlan tag for tx message untagged:Peel off the vlan tag for the tx message
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format for 1,11-27,100

**【Example】**

**Example 1:** Set vlan mode of pon1 as hybrid and add untagged vlan 10-15 to it.

```
OLT(config-interface-epon-0/0)#vlan hybrid 1 untagged 10-15
```

```
pon0/0/1:hybrid vlan added,failed:0,success:6
```

```
OLT(config-interface-ge-0/0)#
```

**Example 2:**Set vlan mode of pon1 as hybrid and add vlan 101 tagged to it.

```
OLT(config-interface-epon-0/0)#vlan hybrid 1 tagged 101
```

```
pon0/0/1:hybrid vlan added,failed:0,success:1
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.6. Delete PON Port Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no vlan hybrid &lt;port-id&gt; &lt;{tagged   untagged}&gt; &lt;vlan-list&gt;</b>
<b>View</b>	PON view



<b>Description</b>	This command is used to delete the hybrid vlan of pon port.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-id&gt;</b>	Port ID to be delete,range for 1-16
<b>{tagged   untagged}</b>	tagged:Add vlan tag for tx message untagged:Peel off the vlan tag for the tx message
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format for 1,11-27,100

**【Example】**

**Example 1:** Delete hybrid vlan 10-15 tagged of pon1.

```
OLT(config-interface-epon-0/0)#no vlan hybrid 1 tagged 10-15
OLT(config-interface-epon-0/0)#
```

### 10.8.7. Config PON Port Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan trunk &lt;port-list&gt; &lt;vlan-list&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the trunk vlan of pon port.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format for 1,6-7,8
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.Format can be 1,11-27,100

**【Example】**

**Example1:**Add trunk vlan 10-15 to pon1.

```
OLT(config-interface-epon-0/0)#vlan trunk 1 10-15
pon0/0/1:trunk vlan allowed,failed:0,success:6
OLT(config-interface-epon-0/0)#
```

### 10.8.8. Delete PON Port Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>no vlan trunk &lt;port-id&gt; &lt;vlan-list&gt;</b>
<b>View</b>	PON view
<b>Description</b>	This command is used to delete the trunk vlan of pon port.The processing way to message of the port is shown on <a href="#">Appendix 1</a>
<b>&lt;port-id&gt;</b>	Port ID to be delete,range for 1-16
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.Format can be 1,11-27,100

**【Example】**

**Example 1:** Delete trunk vlan 10-15 of pon1.

```
OLT(config-interface-epon-0/0)#no vlan trunk 1 10-15
OLT(config-interface-epon-0/0)#
```

### 10.8.9. Config PON Port Translate Mode VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan translate &lt;port-list&gt; &lt;old-vlan&gt; &lt;new-vlan&gt; &lt;new-priority&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set translate vlan of pon port.In the upstream direction,it can translate old vlan into new vlan and update new priority
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format is 1,6-7,8
<b>&lt;old-vlan&gt;</b>	Old VLAN ID,range for 1-4094
<b>&lt;new-vlan&gt;</b>	New VLAN ID,range for 1-4094
<b>&lt;new-priority&gt;</b>	New VLAN priority,range for 0-7

**【Example】**

**Example 1:** Translate vlan 10 of pon1 into vlan 11 and update the priority as 3.

```
OLT(config-interface-epon-0/0)#vlan translate 1 10 11 3
OLT(config-interface-epon-0/0)#
```

### 10.8.10. Delete PON Port Translate Mode VLAN

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>no vlan translate &lt;port-list&gt; &lt;vlan-list&gt;</b>
<b>View</b>	PON view
<b>Description</b>	This command is used to delete the translate VLAN of pon port.In the upstream direction,it can translate old vlan into new vlan and update new priority
<b>&lt;port-list&gt;</b>	Port list to be delete,range for 1-16
<b>&lt;vlan-list&gt;</b>	VLAN list to be delete,range for 1-4094

**【Example】**

**Example 1:** Delete translate vlan 10 of pon1.

```
OLT(config-interface-epon)#no vlan translate 1 10
```

```
OLT(config-interface-epon)#
```

### 10.8.11. Config PON Port QinQ VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan qinq &lt;port-list&gt; cvlan-range &lt;start-cvlan&gt; &lt;end-cvlan&gt; &lt;qinq-svlan&gt; &lt;svlan-priority&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set qinq vlan of pon port.In upstream direction,it can add a SVLAN for the stream between start-CVLAN and end-CVLAN.It need to create a SVLAN in global mode(config view)
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format is 1,6-7,8
<b>&lt;start-cvlan&gt;</b>	The inner start vlan,range for 1-4094
<b>&lt;end-cvlan&gt;</b>	The inner end vlan,range for 1-4094
<b>&lt;qinq-svlan&gt;</b>	The outer vlan,range for 1-4094
<b>&lt;svlan-priority&gt;</b>	SVLAN priority,range for 0-7

#### 【Example】

**Example 1:** The qinq setting of pon1:add a svlan 20 for the stream which is between vlan 10-15 and set its priority as 0.

```
OLT(config-interface-epon-0/0)#vlan qinq 1 cvlan-range 10 15 20 0
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.12. Delete PON Port QinQ VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)#no <b>vlan qinq &lt;port-list&gt; cvlan-range &lt;start-cvlan&gt; &lt;end-cvlan&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to delete qinq vlan of pon port.In upstream direction,it can add a SVLAN for the stream between start-CVLAN and end-CVLAN.It need to create a SVLAN in global mode(config view)
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format is 1,6-7,8
<b>&lt;start-cvlan&gt;</b>	The inner start vlan,range for 1-4094
<b>&lt;end-cvlan&gt;</b>	The inner end vlan,range for 1-4094

#### 【Example】

**Example 1:** Delete the qinq setting of pon1.

```
OLT(config-interface-epon-0/0)#no vlan qinq 1 cvlan-range 10 15
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.13. Config PON Port Aggregation VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>vlan aggregation pon-port</b> <b>&lt;port-list&gt; cvlan-range &lt;start-cvlan&gt; &lt;end-cvlan&gt;</b> <b>&lt;aggregation-svlan&gt; &lt;svlan-priority&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set aggregation vlan of pon port.In upstream direction,it can translate the vlan which range is from start-cvlan to end-cvlan into svlan.
<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format is 1,6-7,8
<b>&lt;start-cvlan&gt;</b>	The inner start vlan,range for 1-4094
<b>&lt;end-cvlan&gt;</b>	The inner end vlan,range for 1-4094
<b>&lt;aggregation-svlan&gt;</b>	SVLAN ID,the vlan after translating,range for 1-4094
<b>&lt;svlan-priority&gt;</b>	Priority of SVLAN,range for 0-7

**【Example】**

**Example 1:** Translate the cvlan 10-15 of pon1 upstream direction into svlan 20.

```
OLT(config-interface-epon-0/0)#vlan aggregation pon-port 1 cvlan-range 10 15 20 0
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.14. Config PON Port Protocol VLAN

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>protocol-vlan &lt;protocol-index&gt;</b> <b>{add delete} port &lt;port-list&gt; &lt;vlan-ID&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to bind a protocol vlan index for port and port vlan.Firstly,it needs to create a protocol-vlan in config view
<b>&lt;protocol-index&gt;</b>	Protocol vlan index,range for 1-16
<b>{add delete}</b>	add:Add vlan

	delete:Delete vlan
<port-list>	Port list to be set,range for 1-16,format is 1,6-7,8
<vlan-ID>	VLAN ID,range for 1-4094

**【 Example 】**

**Example 1:** Bind pon1 to protocol vlan index 1 and add it into vlan 100.

```
OLT(config-interface-epon-0/0)#protocol-vlan 1 add port 1 100
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.15. Show OLT PON Port VLAN Configuration

<b>Command</b>	OLT(config-interface-ge-0/0)# <b>show port vlan &lt;port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show vlan info od pon port
<port-id>	Port-ID:Port id to be show,range for 1-16

**【 Example 】**

**Example 1:** Show vlan info of pon1.

```
OLT(config-interface-epon-0/0)#show port vlan 1
```

```
-----  
Port:pon0/0/1 Mode:Access Native-Vlan:1 Priority:0  
-----
```

```
Tagged-Vlan:  
-  
-----
```

```
Untagged-Vlan:  
1  
-----
```

```
OLT(config-interface-epon-0/0)#
```

### 10.8.16. Show PON Port Translate VLAN Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show vlan translate all</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show vlan translating info of all pon port

**【 Example 】**

**Example 1:** Show VLAN translating info of all the pon port

```

OLT(config-interface-epon-0/0)#show vlan translate all
-----
index port oldvlan newvlan priority mode
-----
1 pon0/0/1 21 30--Translate
2 pon0/0/1 10-12 20 0 QinQ
-----

OLT(config-interface-epon-0/0)#
    
```

### 10.8.17. Show PON Port Aggregation VLAN Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show vlan aggregation pon-port</b> {<port-id>/all}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show aggregation vlan info of pon port
<b>&lt;port-id&gt;/all</b>	Port-ID:Port ID to be show,range for 1-16 All:Show aggregation vlan info of all the pon port

**【Example】**

**Example 1:** Show aggregation vlan info of all the pon port

```

OLT(config-interface-epon-0/0)#show vlan aggregation pon-port all
-----
index port ontId cvlan svlan priority
-----
1 0/0/1--10-13 20 2
-----

OLT(config-interface-epon-0/0)#
    
```

## 11. OLT MAC Address Table Manage

### 11.1. Config OLT MAC-address Black-hole

<b>Command</b>	OLT(config)# <b>mac-address black-hole vlan &lt;vlan-id&gt; &lt;mac-address&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to specify a black hole mac address table.If source mac address or destination mac address of some message is equal to the mac address in black hole mac address table,the Switch

	will discard this message.
<b>&lt;vlan-id&gt;</b>	VLAN id,range for 1-4094
<b>&lt;mac-address&gt;</b>	Mac address,format for XX:XX:XX:XX:XX:XX

**【 Example 】**

**Example 1:** Add mac 00:00:00:12:34:56 to black hole mac address table of vlan 100

```
OLT(config)#mac-address black-hole vlan 100 00:00:00:12:34:56
```

```
OLT(config)#
```

## 11.2. Delete MAC-Address Black-hole

<b>Command</b>	OLT(config)# <b>no mac-address black-hole vlan &lt;vlan-id&gt;</b> <b>&lt;mac-address&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete black-hole mac address
<b>&lt;vlan-id&gt;</b>	VLAN ID,range for 1-4094。
<b>&lt;mac-address&gt;</b>	Mac address,format for XX:XX:XX:XX:XX:XX

**【 Example 】**

**Example 1:** Delete vlan 100 black-hole mac address 00:00:00:12:34:56

```
OLT(config)#no mac-address black-hole vlan 100 00:00:00:12:34:56
```

```
OLT(config)#
```

## 11.3. Config OLT Mac Address Entries limit

<b>Command</b>	OLT(config)# <b>mac-address limit port {epon/ge/xge } F/S &lt;port-list&gt;</b> <b>&lt;number&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the maximum mac address learning entry,when the quantity of mac address is out of this value,OLT will discard the other mac address except the learned mac.
<b>epon/ge/xge</b>	epon:PON port ge:ge uplink port xge:xge 10giga uplink port
<b>F/S</b>	FrameID/SlotID,<0-0>/<0-0>,the value of 1U olt is 0/0

<b>&lt;port-list&gt;</b>	Port list to be set,range for 1-16,format is 1,6-7,8
<b>&lt;number&gt;</b>	The number of mac address,range for 0-8092,zero means without limitation.The default is 0.

**【 Example 】**

**Example 1:** Set the maximum learning mac address entry of GE5 as 500

```
OLT(config)#mac-address limit port ge 0/0 5 500
```

```
OLT(config)#
```

## 11.4. Add Static MAC Address Bind Function

<b>Command</b>	OLT(config)# <b>mac-address static port {epon/ge/ xge} F/S/P {lag &lt;manual-group-ID&gt;/&lt;lacp-group-ID&gt;}</b> vlan <vlan-ID> <mac-address>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the static mac address.With this function,the devices needn't mac address learning process,it can transfer the message according to static mac.
<b>epon/ge/xge/lag</b>	epon:Pon port,range for 0/0/1-16 ge:GE uplink port,range for 0/0/1-8 xge:10giga xge uplink port,range for 0/0/1-2 Lag:Port aggregation group,range for 1-8,9-16
<b>F/S/P</b>	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
<b>&lt;manual-group-ID&gt; &lt;lacp-group-ID&gt;</b>	manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16
<b>&lt;vlan-ID&gt;</b>	VLAN ID,range for 1-4094。
<b>&lt;mac-address&gt;</b>	Mac address,format for XX:XX:XX:XX:XX:XX

**【 Example 】**

**Example 1:** Bind mac address e0:67:b3:12:eb:f6 with GE5 and vlan 100.

```
OLT(config)#mac-address static port ge 0/0/5 vlan 100 e0:67:b3:12:eb:f6
```

```
OLT(config)#
```

**Example 2:**Bind mac address e0:67:b3:12:eb:f6 with pon1 and vlan 100.

```
OLT(config)#mac-address static port epon 0/0/1 vlan 100 e0:67:b3:12:eb:f7
```

```
OLT(config)#
```



**Example 3:** Bind mac address e0:67:b3:12:eb:f6 with XGE1 and vlan 100.

```
OLT(config)#mac-address static port xge 0/0/1 vlan 100 e0:67:b3:12:eb:f8
OLT(config)#
```

**Example 4:** Bind mac address e0:67:b3:12:eb:f6 with lag1 and vlan 100.

```
OLT(config)#mac-address static port lag 1 vlan 100 e0:67:b3:12:eb:f9
OLT(config)#
```

## 11.5. Delete Static MAC Address bind

<b>Command</b>	OLT(config)# <b>no mac-address static port {epon/ge/ xge} F/S/P {lag &lt;manual-group-ID&gt;  &lt;lacp-group-ID&gt;}</b> vlan <vlan-ID> <mac-address>
<b>View</b>	Config view
<b>Description</b>	This command used to delete static mac address of olt
<b>epon/ge/xge/lag</b>	epon:Pon port,range for 0/0/1-16 ge:GE uplink port,range for 0/0/1-8 xge:10giga xge uplink port,range for 0/0/1-2 Lag:Port aggregation group,range for 1-8,9-16
<b>F/S/P</b>	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-16> ,
<b>&lt;manual-group-ID&gt; /&lt;lacp-group-ID&gt;</b>	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
<b>&lt;vlan-ID&gt;</b>	manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16
<b>&lt;mac-address&gt;</b>	VLAN ID,range for 1-4094.

### 【Example】

**Example 1:** No bind the mac address e0:67:b3:12:eb:f6 with the GE5 and vlan 100.

```
OLT(config)#no mac-address static port ge 0/0/5 vlan 100 e0:67:b3:12:eb:f6
OLT(config)#
```

**Example 2:** No bind the mac address e0:67:b3:12:eb:f6 with the pon1 and vlan 100.

```
OLT(config)#no mac-address static port epon 0/0/1 vlan 100 e0:67:b3:12:eb:f7
OLT(config)#
```

**Example 3:**No bind the mac address e0:67:b3:12:eb:f6 with the XGE1 and vlan 100.

```
OLT(config)#no mac-address static port xge 0/0/1 vlan 100 e0:67:b3:12:eb:f8

OLT(config)#
```

**Example 4:**No bind the mac address e0:67:b3:12:eb:f6 with the lag1 and vlan 100.

```
OLT(config)#no mac-address static port lag 1 vlan 100 e0:67:b3:12:eb:f9

OLT(config)#
```

## 11.6. Config OLT MAC Address Aging Time

<b>Command</b>	OLT(config)# <b>mac-address timer {&lt;aging-time&gt;/no-aging}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the dynamic table body aging time of the system mac address table.it takes effect immediately after successful setting,system will check the dynamic address by timing,if the system has not transmit or receive any message with specified source mac address during the aging time,this mac address will be deleted from mac address table.Dynamic mac address aging timer can release the source of mac address table to learn new mac address.
<b>{&lt;aging-time&gt;/no-aging}</b>	<aging-time>:mac address aging time,range for 10-1000000,unit is second no-aging:Set mac address without aging time.when it is no need to open mac address aging function,use this parameter

### 【Example】

**Example 1:** Set mac address aging time as 1000 second.

```
OLT(config)#mac-address timer 1000

OLT(config)#
```

## 11.7. Clear OLT MAC Address Table

<b>Command</b>	OLT(config)# <b>mac-address flush {all/dynamic/black-hole/static}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear the mac address table of olt
<b>{all/dynamic/black-hole/static}</b>	All:All the mac address in the table Dynamic:Dynamic mac address

	black-hole:Black hole mac address Static:Static mac address
--	--

**【 Example 】**

**Example 1:** Clear all the mac address in the mac address table.

OLT(config)#mac-address flush all
OLT(config)#

## 11.8. Clear OLT Port MAC Address Table

<b>Command</b>	OLT(config)# <b>mac-address flush port {epon/ge/ xge} F/S/P / {lag &lt;manual-group-ID&gt;/&lt;lacp-group-ID&gt;/all/dynamic/ static }</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear the MAC address learned by the port of OLT
<b>{epon/ge/xge/l ag}</b>	epon:Pon port,range for 0/0/1-16 ge:GE uplink port,range for 0/0/1-8 xge:10giga xge uplink port,range for 0/0/1-2 Lag:Port aggregation group,range for 1-8,9-16
<b>F/S/P</b>	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-16> ,
<b>&lt;manual-group-ID&gt;/&lt;lacp-group-ID&gt;</b>	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
<b>all/dynamic/sta tic</b>	All:All the mac address in the table Dynamic:Dynamic mac address Static:Static mac address

**【 Example 】**

**Example 1:** Clear the MAC address learned by GE1.

OLT(config)#mac-address flush port ge 0/0/1 all
OLT(config)#

## 11.9. According OLT VLAN Clear MAC Address Table

<b>Command</b>	OLT(config)# <b>mac-address flush vlan&lt;vlan-ID&gt; {all/black-hole/dynamic/static}</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to clear the mac address learned by the vlan of olt
<b>&lt;vlan-ID&gt;</b>	Vlan id
<b>all/black-hole/dynamic/static</b>	All:All the mac address in the table Dynamic:Dynamic mac address black-hole:Black hole mac address Static:Static mac address

**【 Example 】**

**Example 1:** Clear all the mac address learned by vlan 100.

```
OLT(config)#mac-address flush vlan 100 all
```

```
OLT(config)#
```

## 11.10. Show OLT MAC Address Table

<b>Command</b>	OLT(config)# <b>show mac-address all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all the mac address learn by olt

**【 Example 】**

**Example 1:** Show all the mac address learned by olt.

```
OLT(config)#show mac-address all
```

```
-----  
Total:3  
-----
```

```
MAC VLAN Port MAC-Type  
-----
```

```
E0:56:43:A9:B4:1A 100 cpu static  
E0:56:43:A9:B4:1A 200 cpu static  
E0:56:43:A9:B4:1A 1000 cpu static  
-----
```

```
OLT(config)#
```

## 11.11. Show OLT MAC Address Black Hole

<b>Command</b>	OLT(config)# <b>show mac-address black-hole</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all the black hole mac address of olt

**【Example】**

**Example1:**Show all the black hole mac address of olt.

```

OLT(config)#show mac-address black-hole
<cr>-Please press ENTER to execute command

OLT(config)#show mac-address black-hole
-----
Total:1
-----
MAC VLAN Port MAC-Type
-----
00:12:13:23:45:32 100 cpu blackhole
-----

OLT(config)#
    
```

## 11.12. Show OLT Dynamic MAC Address Table

<b>Command</b>	OLT(config)# <b>show mac-address dynamic</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all the dynamic mac address learned by olt

**【Example】**

**Example 1:** Show all the dynamic mac address learned by olt.

```

OLT(config)#show mac-address dynamic
-----
Total:3
-----
MAC VLAN Port MAC-Type
-----
02:02:5C:6E:0F:17 1 ge0/0/5 dynamic
F4:06:69:B3:74:8C 1 ge0/0/5 dynamic
00:0A:C2:22:B0:9D 1 ge0/0/5 dynamic
-----

OLT(config)#
    
```

## 11.13. Show MAC Address Table From ONU

<b>Command</b>	OLT(config)# <b>show mac-address ont F/S/P &lt;onu-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address learned by onu
<b>F/S/P</b>	FrameID/SlotID/PortID,range for<0-0>/<0-0>/<1-16>
<b>&lt;onu-id&gt;</b>	ONU id,range for 1-64

**【Example】**

**Example 1:** Show mac address learned by pon1 ont 4.

```
OLT(config)#show mac-address ont 0/0/1 4
-----
Total:1
-----
MAC VLAN Port ONU-Id MAC-Type
-----
E0:67:B3:0D:0E:01 1 pon0/0/1 4 dynamic
-----

OLT(config)#
```

## 11.14. Show MAC Address Table From PON Port

<b>Command</b>	OLT(config)# <b>show mac-address port epon F/S/P with-ont-location</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address learned by pon port and show the onu id that the mac address had through
<b>F/S/P</b>	FrameID/SlotID/PortID,range for<0-0>/<0-0>/<1-16>
<b>with-ont-location</b>	This parameter is optional,if it is added,it will show the onu id that the mac address had through

**【Example】**

**Example 1:** Show the mac address learned by pon1 and show the onu id that the mac address had through

```
OLT(config)#show mac-address port epon 0/0/1 with-ont-location
-----
Total:1
-----
MAC VLAN Port ONU-Id MAC-Type
-----
```

```

E0:67:B3:0D:0E:01 1 pon0/0/1 4 dynamic
-----

OLT(config)#show mac-address port epon 0/0/1
-----

Total:1
-----

MAC VLAN Port MAC-Type
-----

E0:67:B3:0D:0E:01 1 pon0/0/1 dynamic
-----

OLT(config)#

```

### 11.15. Show MAC Address Table From GE Port

<b>Command</b>	OLT(config)# <b>show mac-address port ge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address learned by GE port.
<b>&lt;F/S/P&gt;</b>	FrameID/SlotID/PortID,range for<0-0>/<0-0>/<1-8>

**【Example】**

**Example 1:** Show the mac address learned by GE5

```

OLT(config)#show mac-address port ge 0/0/5
-----

Total:9
-----

MAC VLAN Port MAC-Type
-----

3C:95:09:4F:30:D1 1 ge0/0/5 dynamic
84:5B:12:66:C0:E2 1 ge0/0/5 dynamic
02:02:5C:6E:0F:17 1 ge0/0/5 dynamic
E0:67:B3:46:50:DD 1 ge0/0/5 dynamic
00:E0:FC:09:BC:F9 1 ge0/0/5 dynamic
B8:81:98:78:36:10 1 ge0/0/5 dynamic
00:DB:DF:9C:FA:0E 1 ge0/0/5 dynamic
00:0A:C2:22:B0:9D 1 ge0/0/5 dynamic
6C:3B:6B:32:83:1C 1 ge0/0/5 dynamic
-----

OLT(config)#

```

## 11.16. Show MAC Address Table From XGE Port

<b>Command</b>	OLT(config)# <b>show mac-address port xge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address learned by XGE port.
<b>&lt;F/S/P&gt;</b>	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-2>

### 【Example】

**Example 1:** Show mac address learned by XGE1.

```
OLT(config)#show mac-address port xge 0/0/1
There is not any MAC address record!

OLT(config)#
```

## 11.17. Show MAC Address Table From Aggregation Group

<b>Command</b>	OLT(config)# <b>show mac-address port lag {&lt;manual group id&gt; &lt;Lacp group id&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show mac address learned by port aggregation group.
<b>{&lt;Manual group id&gt; &lt;Lacp group id&gt;}</b>	manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16

### 【Example】

**Example 1:** Show mac address learned by port link aggregation group 1.

```
OLT(config)#show mac-address port lag 1
There is not any MAC address record!

OLT(config)#
```

## 11.18. Show OLT Static MAC Address Tables

<b>Command</b>	OLT(config)# <b>show mac-address static</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all the static mac address of olt.

### 【Example】



**Example 1:** Show all the static mac address of olt.

```
OLT(config)#show mac-address static
-----
Total:3
-----
MAC VLAN Port MAC-Type
-----
E0:56:43:A9:B4:1A 100 cpu static
E0:56:43:A9:B4:1A 200 cpu static
E0:56:43:A9:B4:1A 1000 cpu static
-----
OLT(config)#
```

## 11.19. Show OLT MAC Address Aging Time Configuration

<b>Command</b>	OLT(config)# <b>show mac-address timer</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address aging time of OLT.

### 【Example】

**Example 1:** Show mac address aging time of olt.

```
OLT(config)#show mac-address timer
MAC aging time:300s
OLT(config)#
```

## 11.20. Show MAC Address Table From Specified Vlan

<b>Command</b>	OLT(config)# <b>show mac-address vlan &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the mac address of specified vlan.
<b>&lt;vlan-id&gt;</b>	VLAN ID to be show,range for 1-4094

### 【Example】

**Example 1:** Show mac address of vlan 100.

```
OLT(config)#show mac-address vlan 100
-----
Total:2
-----
MAC VLAN Port MAC-Type
```

```

-----
E0:56:43:A9:B4:1A 100 cpu static
00:12:13:23:45:32 100 cpu blackhole
-----

```

```

OLT(config)#

```

## 12. OLT Global VLAN Configurations

### 12.1. OLT VLAN Basic Configuration

#### 12.1.1. Create OLT VLAN or VLAN List

<b>Command</b>	OLT(config)# <b>vlan vlan-list</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create a vlan or a vlan list.
<b>&lt;vlan-list&gt;</b>	ID of vlan,range for 1-4094

##### 【Example】

**Example 1:** Create vlan 100.

```

OLT(config)#vlan 100
Create vlan successfully:100

OLT(config)#

```

**Example 2:**Create a vlan list 110-120.

```

OLT(config)#vlan 110-120
Create vlan successfully:110-120

OLT(config)#

```

#### 12.1.2. Delete OLT VLAN or VLAN List

<b>Command</b>	OLT(config)# <b>no vlan &lt;vlan-list&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete one or batch of vlan
<b>&lt;vlan-list&gt;</b>	VLAN id to be delete,range for 1-4094

##### 【Example】

**Example 1:** Delete vlan 100.

```
OLT(config)#no vlan 100
Delete vlan successfully:100

OLT(config)#
```

**Example 2:**Delete vlan list 110-120.

```
OLT(config)#no vlan 110-120
Delete vlan successfully:110-120

OLT(config)#
```

### 12.1.3. Config OLT VLAN or VLAN List Name

<b>Command</b>	OLT(config)# <b>vlan-name</b> <vlan-list> <vlan-name>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the vlan name.
<b>&lt;vlan-name&gt;</b>	Vlan name,length for 1-17 letters

**【Example】**

**Example 1:** Set the name of vlan 100 as test.

```
OLT(config)#vlan-name 100 test

OLT(config)#
```

**Example 2:**Set the name of vlan list 100-120 as test.

```
OLT(config)#vlan-name 100-120 test

OLT(config)#
```

### 12.1.4. Delete VLAN or VLAN List Name

<b>Command</b>	OLT(config)# <b>no vlan-name</b> <vlan-list> <vlan-name>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete the name of vlan.
<b>&lt;vlan-list&gt;</b>	VLAN id to be set,range for 1-4094

**【Example】**

**Example 1:** Delete the name of vlan 100.

```
OLT(config)#no vlan-name 100
```

```
OLT(config)#
```

**Example 2:**Delete the name of vlan list 100-120.

```
OLT(config)#no vlan-name 100-120
```

```
OLT(config)#
```

## 12.1.5. Show OLT VLAN Configuration

<b>Command</b>	OLT(config)# <b>show vlan {all/&lt;vlan-list&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show vlan info.
<b>&lt;vlan-list&gt;</b>	VLAN id to be show,range for 1-4094

### 【 Example 】

**Example 1:** Show the info of vlan 100.

```
OLT(config)#show vlan 100
```

```
-----  
Vlan-ID:100 Vlan-Name:test
```

```
Untagged-Ports:-
```

```
Tagged-Ports:-  
-----
```

```
OLT(config)#
```

**Example 2:**Show info of all the vlan.

```
OLT(config)#show vlan all
```

```
-----  
Vlan-ID:1 Vlan-Name:vlan1
```

```
Untagged-Ports:
```

```
ge0/0/1 ge0/0/2 ge0/0/3 ge0/0/4 ge0/0/5
```

```
ge0/0/6 ge0/0/7 ge0/0/8 xge0/0/1 xge0/0/2
```

```
pon0/0/1 pon0/0/2 pon0/0/3 pon0/0/4 pon0/0/5
```

```
pon0/0/6 pon0/0/7 pon0/0/8 pon0/0/9 pon0/0/10
```

```
pon0/0/11 pon0/0/12 pon0/0/13 pon0/0/14 pon0/0/15
```

```
pon0/0/16 lag1 lag2 lag3 lag4
```

```
lag5 lag6 lag7 lag8 lag1
```

```
lag2 lag3 lag4 lag5 lag6
```

```
lag7 lag8
```

```

Tagged-Ports:-
-----
Vlan-ID:2 Vlan-Name:vlan2
Untagged-Ports:-
Tagged-Ports:-
    
```

### 12.1.6. Show OLT VLAN Translate Configuraiton

<b>Command</b>	OLT(config)# <b>show vlan translate all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show vlan translating list.

#### 【Example】

**Example 1:** Show translating list of vlan 100.

```

OLT(config)#show vlan translate all
-----
index port oldvlan newvlan priority mode
-----
1 pon0/0/5 800 800--Translate
2 pon0/0/14 2000-2124 38 0 QinQ
3 pon0/0/1 1000 37 0 QinQ
4 pon0/0/14 1000 37 0 QinQ
-----

OLT(config)#
    
```

## 12.2. Vlanif Configuration

### 12.2.1. Create or Delete Vlanif Interface

<b>Command</b>	OLT(config)# <b>{no} interface vlanif &lt;vlan-list&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create or delete a vlanif interface
<b>&lt;vlan-list&gt;</b>	VLAN id to be set,range for 1-4094

#### 【Example】

**Example 1:** Create a interface vlanif 100 and enter the configure view,the precondition is that the vlan 100 had been created.

```

OLT(config)#interface vlanif 100
    
```

```
OLT(config-interface-vlanif-100)#
```

**Example 2:**Delete the vlanif 100.

```
OLT(config)#no interface vlanif 100
```

```
OLT(config)#
```

### 12.2.2. Create or Delete Vlanif IP Address

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>{no} ip address &lt;ip address&gt; {&lt;IP address mask length-mask&gt;}</b>
<b>View</b>	Vlanif interface
<b>Description</b>	This command is used to create or delete the ip address of vlanif interface
<b>&lt;ip address&gt;</b>	IP address of vlanif,format for X.X.X.X
<b>&lt;IP address mask&gt;</b>	IP address mask of vlanif interface,format for X.X.X.X
<b>&lt;length-mask&gt;</b>	Length of net mask,range for 0-32

#### 【Example】

**Example 1:** Set the ip address and net mask of vlanif interface as 192.168.1.100 and 255.255.255.0

```
OLT(config-interface-vlanif-100)#ip address 192.168.1.100 255.255.255.0
```

```
OLT(config-interface-vlanif-100)#
```

**Example 2:**Delete the ip address of vlanif.

```
OLT(config-interface-vlanif-100)#no ip address
```

```
OLT(config-interface-vlanif-100)#
```

### 12.2.3. Config Vlanif Interface Description

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>description &lt;description information&gt;</b>
<b>View</b>	VLANIF view

<b>Description</b>	This command is used to set the description of vlanif interface
<b>&lt;description information&gt;</b>	The description of vlanif,length for 1-128

**【Example】**

**Example 1:** Set the description of vlanif 100 as test.

```
OLT(config)#interface vlanif 100

OLT(config-interface-vlanif-100)#description test
Set interface description successfully!

OLT(config-interface-vlanif-100)#
```

## 12.2.4. Show Vlanif Interface Detail Information

<b>Command</b>	OLT(config)# <b>show interface vlanif &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the detail info of one or whole vlanif interface
<b>&lt;vlan-id&gt;</b>	VLAN ID to be show

**【Example】**

**Example 1:** Show the info of vlanif 100

```
OLT(config)#show interface vlanif 100
Description:Inband interface vlanif100
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.1.100,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes

OLT(config)#
```

**Example 2:**Show the info of whole vlanif interface.

```
OLT(config)#show interface vlanif
Description:Inband interface vlanif100
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.1.100,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes
```

```

Description:Inband interface vlanif1000
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.2.100,netmask 255.255.255.0
Hardware address is E0:56:43:A9:B4:1A
Recive 0 packets,0 bytes
Transmit 0 packets,0 bytes

OLT(config)#
  
```

## 12.3. VLAN Policy Configuration

### 12.3.1. Add VLAN Policy Based On Mac address

<b>Command</b>	OLT(config)# <b>mac-vlan</b> <mac-address> <vlan-id> <priority>
<b>View</b>	Config view
<b>Description</b>	This command is used to add mac-vlan,when the ingress message of olt is untagged and the destination mac is equal to the setting mac too,this message will be added a corresponding vlan and priority label. Delete mac-vlan:no mac-vlan<mac-address>/all
<b>&lt;mac-address&gt;</b>	Mac address,format for xx.xx.xx.xx.xx.xx。
<b>&lt;vlan-id&gt;</b>	VLAN id,range for 1-4094.
<b>&lt;priority&gt;</b>	priority

#### 【Example】

**Example 1:** Add mac-vlan 100 and priority 0 to mac address 13:20:12:08:97:23

```

OLT(config)#mac-vlan 13:20:12:08:97:23 100 0

OLT(config)#
  
```

### 12.3.2. Show MAC-VLAN Entry

<b>Command</b>	OLT(config)# <b>show mac-vlan all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show mac-vlan entry

#### 【Example】



**Example 1:** Show mac-vlan entry

```
OLT(config)#show mac-vlan all
-----
index mac-address vlan priority
1 13:20:12:08:97:23 100 0
-----
OLT(config)#
```

### 12.3.3. Add VLAN Policy Based On IP Address

<b>Command</b>	OLT(config)# <b>ip-subnet-vlan</b> <ip-addr> {length-mask mask} <vlan-id> <priority>
<b>View</b>	Config view
<b>Description</b>	This command is used to add ip-subnet-vlan,when the ingress message of olt is untagged and the destination ip address is equal to the setting ip address too,this message will be added a corresponding vlan and priority label. Delete ip-subnet-vlan entry:no ip-subnet-vlan<ip address><length>/<mask>
<ip-addr>	IP address,format for x.x.x.x
<length-mask mask>	length of net mask,range for 0-32 Mask:net mask,format for x.x.x.x
<vlan-id>	VLAN id,range for 1-4094
<priority>	VLAN priority

**【Example】**

**Example 1 :** Create an ip-subnet-vlan,set ip address as 192.168.5.34,net mask length for 24,vlan for 100,priority for 0.

```
OLT(config)#ip-subnet-vlan 192.168.5.34 24 100 0
OLT(config)#
```

### 12.3.4. Show IP-Subnet-VLAN Entry

<b>Command</b>	OLT(config)# <b>show ip-subnet-vlan all</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to show the entry of ip-subnet-vlan
--------------------	--

**【Example】**

**Example 1:** Show all the entry of ip-subnet-vlan.

```
OLT(config)#show ip-subnet-vlan all
-----
ip-address netmask vlan priority
192.168.5.0 255.255.255.0 100 0
-----

OLT(config)#
```

### 12.3.5. Add VLAN Policy Based On Protocol

<b>Command</b>	OLT(config)# <b>protocol-vlan</b> <protocol-index> {at ipv4 ipv6 } {<ethernetii snap } OLT(config)# <b>protocol-vlan</b> <protocol-index> <ipx> {ethernetii snap llc snap } OLT(config)# <b>protocol-vlan</b> <protocol-index> mode {ethernetii snap } <b>etype</b> <ethertype id>
<b>View</b>	Config view
<b>Description</b>	This command is used to create protocol-vlan. Protocol-vlan can be bound to GE port, pon port, xge port, it is used to protocol translation for switch data. Delete the protocol vlan: no protocol-vlan<1-16>/all
<protocol-index> >	protocol-vlan index, range for 1-16
<parameter>	at: appletalk protocol ipv4: IPv4 protocol ipv6: IPv6 protocol lpx: IPx protocol ethernetii: Type of Ethernet protocol snap: Type of snap protocol llc: Type of llc protocol raw: Type of raw protocol etype: ethertype
<ethertype id>	The number of ethertype, range for 0x0001-0xffff

**【Example】**

**Example 1:** Create a protocol-vlan which index is 1, mode is ethernetii and bind it to GE1 and

vlan 100.

```
OLT(config)#protocol-vlan 1 mode ethernetii etype 0x8100

OLT(config)#interface ge 0/0

OLT(config-interface-ge-0/0)#protocol-vlan 1 add port 1 100

OLT(config-interface-ge-0/0)#
```

### 12.3.6. Show Protocol-vlan Entry

<b>Command</b>	OLT(config)# <b>show protocol-vlan all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show all the protocol-vlan entry.

#### 【Example】

**Example 1:** Show all the protocol-vlan entry.

```
OLT(config)#show protocol-vlan all
-----
index frame ethtype port vlan id
1 ethii unknow(0x8100)ge0/0/1 100
-----

OLT(config)#
```

## 13. OLT IGMP Configuration

### 13.1. Config IGMP Fast-leave Function

<b>Command</b>	OLT(config)# <b>igmp fast-leave {on   off}</b>
<b>View</b>	Config view
<b>Description</b>	igmp fast-leave off: Close igmp-snooping igmp fast-leave function.After executing this command,after the ont receiving igmp leave message of user,it needs to send specific group query message to assure whether the user is online,if the group query message has timeout,but ont still has not receive the user report message,ont will infer the user has offline and renew the local multicast table entry.When the user needn't cut the channel fastly,using this parameter.

	<p>igmp fast-leave on:</p> <p>Open igmp-snooping igmp fast-leave function.After executing this command,after the ont receiving igmp leave message of user,ont renew the local multicast table immediately according to the igmp leave message with no need of sending specific group query message to assure whether the user has offline.When the user needs to cut the channel fastly,using this parameter.</p>
<b>{on off}</b>	<p>Off:Close igmp-snooping igmp fast-leave function of olt</p> <p>On:Open igmp-snooping igmp fast-leave function of olt</p>

### 【 Example 】

**Example 1:** Open igmp-snooping igmp fast-leave function of olt

<pre>OLT(config)#igmp fast-leave on</pre>
<pre>OLT(config)#</pre>

## 13.2. Config IGMP Mode

<b>Command</b>	OLT(config)# <b>igmp mode {ctc snooping proxy disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the mode of igmp
<b>{ctc snooping proxy disable}</b>	<p>igmp mode ctc:</p> <p>Ctc is a controlled multicast mode.traditional multicast service is uncontrollable,user can join in a multicast group by sending igmp report message,then it can receive the multicast message of the multicast group.Its core idea is to set the limits of authority for the user's accessing to a multicast group.when the user request to join in a multicast group,olt must authenticate to this request,and reject to illegal or ultra vires request.Ctc mode of olt reaches its goal by intercepting the igmp report message which is sent by ont to control the creation of second layer multicast transmission table.After the olt receiving report message of multicast user,olt finds the user's using authority template according to the user vlan.if the multicast group is not included in the using authority template,olt will intercept this report message and do not generate transmission table,thus the user can not receive the multicast data stream;if the multicast group is included in the using authority template list,and if the list joins in template by view mode,the report message is permitted to pass.if the list joins in template by preview mode,the report message can pass too,but the olt will activate a timer,when it is timeout,the multicast</p>

	<p>group transmission table will be deleted,the igmp report message will be intercept,the preview function is realized by this way.</p> <p>Otherwise,ont multicast mode must be set as ctc mode,the command is“ont multicast-mode”,in this mode,when the multicast user has passed the authentication,olt will issue the corresponding extension oam message to maintain the multicast table entry of ont to realize the controlling of multicast service.</p> <p>igmp mode snooping Set the igmp mode of multicast vlan as IGMP snooping.IGMP snooping obtains relevant info to maintain the multicast transmission table by monitoring the communication between the user and multicast router.system does not make any process to multicast message of this multicast vlan,just transparent it.</p> <p>igmp mode proxy: Set the igmp mode of multicast vlan as IGMP proxy.igmp proxy intercepts the igmp message between user and multicast router and proceeds coherent processing,then transmits it to the upper multicast router.From the view of user,the system is equivalent to multicast server;From the view of upper device,the system is equivalent to multicast user.IGMP proxy mode degrees the multicast protocol message traffic in the network.</p> <p>igmp mode disable:Close the multicast function</p>
--	---

### 【 Example 】

**Example 1:** Set igmp mode as proxy.

OLT(config)#igmp mode proxy
OLT(config)#

## 13.3. Config IGMP Proxy Parameter

<b>Command</b>	OLT(config)# <b>igmp proxy</b> <b>{gen_interval gen_response robustness source-ip sp_count sp_interval sp_response}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set parameter of IGMP Proxy

<p>&lt;gen_interval gen_response robustness source-ip sp_count sp_interval sp_response&gt;</p>	<p>gen_interval-General query interval This command is used to set general query interval.system send the gen_interval aiming at all program to assure whether the user is watching a program.If the system has not receive the report message of user,it will be regarded as that there is no user watching this program,and this program data stream will be stopped.it can avoid the bandwidth waste from that the user does not watch program but still receiving the multicast stream.</p> <p>gen_response-General query max response time//This command is used to set general query max response time.</p> <p>robustness-Robustness keyword This command is used to set robustness keyword.According to network stability variation,the user hopes to adjust to robustness keyword,using this command.System uses this robustness keyword to assure the aging time of multicast user after setting.Robustness keyword is a coefficient which is used to enhance the robustness of the system,it directly effects to the length of multicast user aging time,in addition,it effects to the frequency of gen_interval message.If a subnet is likely to occur to packet loss,robustness keyword should be increase to ensure the stability of multicast user.</p> <p>source-ip-Source ip of igmp proxy message This command is used to set the source ip of gen_interval or specific group query message which is sent to user by igmp router.If this ip does not be assigned,system will send the gen_interval query message or specific group message with the default ip.</p> <p>sp_count-igmp specific query count This command is used to set the query counts of igmp specific query.System aims at a specific program and sends N(N is set by this command)times specific igmp query message to assure whether the user is watching this program,if there is no user's feedback report message,system will regard that no user is watching this program and the system will not send the program data to user,it can avoid that the user does not watching this program but still receiving the multicast stream,it prevents system from bandwidth waste.</p> <p>sp_interval-Specific query interval This command is used to set specific query interval.system send</p>
--	---

	<p>the specific query message aiming at a specified program to assure whether the user is watching a program.If the system has not receive the report message of user,it will be regarded as that there is no user watching this program,and this program data stream will be stopped.it can avoid the bandwidth waste from that the user does not watch program but still receiving the multicast stream.</p> <p>sp_response-Specific query max response time</p>
--	--

#### 【Example】

**Example 1:** Set igmp proxy specific query count as 1,gen\_interval as 250s,gen\_response as 10,robustness as 2

OLT(config)#igmp proxy sp_count 1
OLT(config)#igmp proxy gen_interval 250
OLT(config)#igmp proxy gen_response 10
OLT(config)#igmp proxy robustness 2
OLT(config)#

### 13.4. Config IGMP Forwarding Policy

<b>Command</b>	OLT(config)# <b>igmp policy {discard   pass}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set transmission policy of igmp message
<b>{discard   pass}</b>	Discard:Discard the unknown igmp protocol message Pass:the igmp protocol message is set as transparent

#### 【Example】

**Example 1:** Discard the unknown igmp protocol message

OLT(config)#igmp policy discard
OLT(config)#

### 13.5. Show IGMP Configuration

<b>Command</b>	OLT(config)# <b>show igmp config</b>
<b>View</b>	Config view,btv view,multicast vlan view

<b>Description</b>	This command is used to show igmp config.including igmp state,fast leave state,General query max response time(s),query interval,source ip and etc.
--------------------	---

**【Example】**

**Example 1:** Show igmp config.

```
OLT(config)#show igmp config
-----
Global config:
Igmp mode:Proxy
Igmp policy:Discard
Fast leave:Off
-----
Proxy config:
Robustness count:2
General query max response time(s):10
General query interval(s):125
Specific query interval(ms):1000
Specific query count:2
Specific query max response time(ms):800
Source ip of the proxy:192.168.1.253
-----

OLT(config)#
```

## 13.6. Show IGMP Forwarding Table

<b>Command</b>	OLT(config)# <b>show igmp group {all ip-address vlan}</b>
<b>View</b>	Config view,btv view,multicast vlan view
<b>Description</b>	This command is used to show igmp group.
<b>{all ip-address vlan}</b>	All:show all the igmp group. vlan-id:show igmp group of specified vlan id ip-address:show igmp group of specified channel ip address

**【Example】**

**Example 1:** Show all the igmp group.

```
OLT(config)#show igmp group all
ERROR:There is not any group address record.

OLT(config)#
```



## 13.7. Config Multicast VLAN

<b>Command</b>	OLT(config)# <b>multicast-vlan &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create multicast vlan and enter multicast vlan mode,"no"command is used to delete it.Multicast vlan is a kind of vlan application,in this mode,user can set relevant parameters of multicast.
<b>&lt;vlan-id&gt;</b>	Multicast vlan id.only after the corresponding vlan is created the multicast vlan can be used.

### 【Example】

**Example 1:** Create multicast vlan 100 and enter enter multicast vlan mode.

```
OLT(config)#multicast-vlan 100
```

```
OLT(multicast-vlan-100)#
```

## 13.8. Config IGMP Match Group

<b>Command</b>	OLT(config)# <b>igmp match group ip &lt;start-ip&gt; to-ip &lt;end-ip&gt;</b>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to set dynamic program library,this range ip address makes up a channel group,it can set limits of authority for these channel in btw mode.
<b>&lt;start-ip&gt;</b>	Match start ip,it must be multicast ip address
<b>&lt;end-ip&gt;</b>	Match end ip,it must be multicast ip address

### 【Example】

**Example 1:** Set a dynamic program library:224.1.1.1-224.2.2.2

```
OLT(config-multicast-vlan-100)#igmp match group ip 224.1.1.1 to-ip 224.2.2.2
```

```
OLT(config-multicast-vlan-100)#
```

## 13.9. Show IGMP Match Group

<b>Command</b>	OLT(config)# <b>show igmp match group {vlan-id all}</b>
<b>View</b>	multicast-vlan view,config view

<b>Description</b>	This command is used to show igmp match group
<b>{vlan-id   all}</b>	vlan-id:multicast vlan id all:all of the multicast vlan

**【 Example 】**

**Example 1:** Show igmp match group vlan 100

```
OLT(config)#show igmp match group vlan 100
Total Match Group:1
-----
MVlan Match Mode Program
100 disable 224.1.1.1-224.2.2.2
-----
OLT(config)#
```

### 13.10. Add IGMP Program

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>igmp program add program-index &lt;Program-index&gt; ip &lt;ip-addr&gt;</b>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to add static multicast program.it needs to pre-allocation multicast program library,The authorized user can view or preview the program in the specified multicast vlan.
<b>&lt;Program-index&gt;</b>	Multicast program index
<b>&lt;ip-addr&gt;</b>	multicasst ip address,format is X.X.X.X

**【 Example 】**

**Example 1:** Set static multicast program,and binds it to program index 2.

```
OLT(config-multicast-vlan-100)#igmp program add program-index 2 ip 239.1.1.1
OLT(config-multicast-vlan-100)#
```

### 13.11. Add Batch IGMP Program

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>igmp program add program-index &lt;Program-index&gt; batch ip &lt;ip-addr&gt; to-ip &lt;ip-addr&gt;</b>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to add static multicast program.If igmp match mode is enabled,it needs to pre-allocation multicast program

	library,The authorized user can view or preview the program in the specified multicast vlan.
<Program-index>	Igmp program index
<ip-addr>	It refers to the beginning and ending igmp IP,forming an igmp range.

**【Example】**

**Example 1 :** It configures batch static igmp program from 224.1.1.1 to 224.1.1.1.3,and binding program-index 3.

```
OLT(config-multicast-vlan-100)#igmp program add program-index 3 batch ip 224.1.1.1
to-ip 224.1.1.3
OLT(config-multicast-vlan-100)#
```

### 13.12. Delete IGMP Program

<b>Command</b>	OLT(config-multicast-vlan-100)#igmp program delete {all   program-index<Program-index>}
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to delete igmp program.When it doesn't want users to watch multicast program,using this command to delete igmp program from program database.Once deleting one program,users will not watch this program.
<Program-index>	igmp program index
<all>	all igmp programs

**【Example】**

**Example 1:** Delete static igmp program-index 2

```
OLT(config-multicast-vlan-100)#igmp program delete program-index 2
OLT(config-multicast-vlan-100)#
```

### 13.13. Config IGMP Router-port

<b>Command</b>	OLT(config-multicast-vlan-100)#igmp router-port <port-id>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to configure igmp router-port.For ctc mode,users need to configure router-port to realize the below devices forwarding.
<port-id>	ge/xge port number

**【Example】**

**Example 1:** configure ge5 port as router-port

```
OLT(config-multicast-vlan-100)#igmp router-port ge 0/0/5
OLT(config-multicast-vlan-100)#
```

### 13.14. Show IGMP Router-port

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>show igmp router-port vlan &lt;vlan-id&gt;</b>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to view IGMP router-port
<b>&lt;vlan-id&gt;</b>	Multicast-vlan id

#### 【Example】

**Example 1:** View multicast-vlan 100 router-port

```
OLT(config-multicast-vlan-100)#show igmp router-port vlan 100
VID:100
Router:ge0/0/5
OLT(config-multicast-vlan-100)#
```

### 13.15. Configure Unknow-multicast Forwarding Policy

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>igmp multicast-unknown policy {discard   transparent}</b>
<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to configure multicast-unknown service flow suppression policy.If service flow carriers special-purpose multicast-unknown,thus configuring transparent.No special-purpose multicast-unknown occupies bandwidth,thus setting discard.
<b>{discard   transparent}</b>	Discard:System discard received multicast-unknown service flow Transparent:System transparent received multicast-unknown service flow.

#### 【Example】

**Example 1:** Configure multicast-unknown policy as discard.

```
OLT(config-multicast-vlan-100)#igmp multicast-unknown policy discard
OLT(config-multicast-vlan-100)#
```

### 13.16. Show Unknow-multicast Forwarding Policy

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>show igmp multicast-unknown policy vlan &lt;vlan-id&gt;</b>
----------------	--

<b>View</b>	multicast-vlan view
<b>Description</b>	This command is used to view multicast-unknown service flow suppress policy.
<b>&lt;vlan-id&gt;</b>	Multicast-vlan id

**【Example】**

**Example 1:** View multicast-unknown service flow suppression policy

```
OLT(config-multicast-vlan-100)#show igmp multicast-unknown policy vlan 100
Unknown multicast policy is discard.
OLT(config-multicast-vlan-100)#
```

### 13.17. Add IGMP User (Member) in Multicast-vlan

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>igmp member user-index &lt;User-index&gt;</b>
<b>View</b>	Multicast-vlan view
<b>Description</b>	This command is used to add igmp user to multicast-vlan
<b>&lt;User-index&gt;</b>	configured igmp user

**【Example】**

**Example 1:** Add igmp user 1 to multicast-vlan 100

```
OLT(config-multicast-vlan-100)#igmp member user-index 1
OLT(config-multicast-vlan-100)#
```

### 13.18. Show Multicast-vlan Member Configuration

<b>Command</b>	OLT(config-multicast-vlan-100)# <b>show igmp multicast-vlan-member {all vlan-id}</b>
<b>View</b>	Config view and multicast-vlan view
<b>Description</b>	This command is used to view multicast-vlan member
<b>&lt;all vlan-id&gt;</b>	all:view all vlan-id:view the specified vlan-id member

**【Example】**

**Example 1:** View all multicast-vlan member

```
OLT(config-multicast-vlan-100)#show igmp multicast-vlan-member all
Total Mvlan Member:1
-----
User-Index Port ONUId Vlan Authority Mvlan Max-program
1 pon0/0/1 1 100 no-auth 100 8
-----
```

```
OLT(config-multicast-vlan-100)#
```

## 13.19. Config IGMP User Bind Rights Profile

<b>Command</b>	OLT(config-btv)# <b>igmp control {bind/delete} user-index &lt;user-index&gt; profile-index &lt;profile-index&gt;</b>
<b>View</b>	btv view
<b>Description</b>	This command is used to bind igmp user and rights profile.
<b>&lt;User-index&gt;</b>	configured user group
<b>&lt;profile-index &gt;</b>	Configured rights profile

### 【Example】

**Example 1:** bind igmp user 1 and rights profile 1

```
OLT(config-btv)#igmp control bind user-index 1 profile-index 1
```

```
OLT(config-btv)#
```

## 14. STP Configuration

### 14.1. Global STP Config

<b>Command</b>	OLT(config)# <b>spanning-tree {enable disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to on/off the global STP protocol. All the configuration about STP protocol will make effect only if the STP is enabled in global mode and port.
<b>{enable disable}</b>	Enable: Enable global STP protocol Disable: Disable global STP protocol

### 【Example】

**Example 1:** Enable STP in global mode.

```
OLT(config)#spanning-tree enable
```

```
OLT(config)#
```

### 14.2. Show STP Configuraiton

<b>Command</b>	OLT(config)# <a href="#">show spanning-tree info</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to show configuration info of STP

**【 Example 】**

case1:Show configuration info of STP

```
OLT(config)#show spanning-tree info
```

```
-----
RSTP switch status:Enable
Bridge ID[PRI-MAC]:32768-e0:56:43:a9:b4:1a
Root Bridge ID[PRI-MAC]:32768-e0:56:43:a9:b4:1a
Bridge max age(s):20
Bridge hello time(s):2
Bridge forward delay(s):15
Transmit Hold Count:3
Root Path Cost:0
-----
Port Status:
-----
Port Priority Path Edge Link Role State
Cost Status Type
-----
ge0/0/1 128 20000 NEdge P2P Unknown Down
ge0/0/2 128 20000 NEdge P2P Unknown Down
ge0/0/3 128 20000 NEdge P2P Unknown Down
ge0/0/4 128 20000 NEdge P2P Unknown Down
ge0/0/5 128 20000 NEdge P2P Unknown Down
ge0/0/6 128 200000 NEdge P2P Designated Forwarding
ge0/0/7 128 20000 NEdge P2P Unknown Down
ge0/0/8 128 20000 NEdge P2P Unknown Down
xge0/0/1 128 2000 NEdge P2P Unknown Down
xge0/0/2 128 2000 NEdge P2P Unknown Down
lag1 128 20000 NEdge P2P Unknown Down
lag2 128 20000 NEdge P2P Unknown Down
lag3 128 20000 NEdge P2P Unknown Down
lag4 128 20000 NEdge P2P Unknown Down
lag5 128 20000 NEdge P2P Unknown Down
lag6 128 20000 NEdge P2P Unknown Down
lag7 128 20000 NEdge P2P Unknown Down
lag8 128 20000 NEdge P2P Unknown Down
lagL9 128 20000 NEdge P2P Unknown Down
lagL10 128 20000 NEdge P2P Unknown Down
lagL11 128 20000 NEdge P2P Unknown Down
```

```
lagL12 128 20000 NEdge P2P Unknown Down
lagL13 128 20000 NEdge P2P Unknown Down
lagL14 128 20000 NEdge P2P Unknown Down
lagL15 128 20000 NEdge P2P Unknown Down
lagL16 128 20000 NEdge P2P Unknown Down
-----
```

```
OLT(config)#
```

### 14.3. Config STP Priority

<b>Command</b>	OLT(config)# <b>spanning-tree priority &lt;rstp bridge priority&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set priority of specified spanning tree for the device. Whether the device will be selected as root bridge depends on the priority of device. When it needs to specify a device as root bridge, use this command to set the priority of device. Whether the device will be selected as root bridge of spanning tree is decided by the priority value.
<b>&lt;rstp bridge priority&gt;</b>	Priority of device. Step size for 4096. The smaller the priority is, the higher class the device. Range for 0-61440, Step size for 4096.

#### 【Example】

**Example 1:** Set the priority of spanning tree as 4096.

```
OLT(config)#spanning-tree priority 4096
```

```
OLT(config)#
```

### 14.4. Config STP Bridge Forward-delay Time

<b>Command</b>	OLT(config)# <b>spanning-tree timer forward-delay &lt;timer&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the device forward-delay time of spanning tree. To prevent the device from occurring a temporary loop, it needs to wait for some time in device status migrating. After setting the forward delay time, status migrates according to this time interval. Range for 4-30s.
<b>&lt;timer&gt;</b>	Status migrate time interval. It relates to the switch network diameter. Generally, the bigger the diameter is, the longer forward



	delay time should be set.Range for 4-30s.The default value is 15s.
--	--

**【Example】**

**Example 1:** Set the forward delay time as 20s.

OLT(config)#spanning-tree timer forward-delay 20
OLT(config)#

## 14.5. Config STP Bridge Hello Message Send Period Time

<b>Command</b>	OLT(config)# <b>spanning-tree timer hello &lt;time&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set transmission period of the spanning tree hello time.Network bridge sends the hello message within a certain time interval,it is used to affirm whether the link is normal.After setting,device will send the hello message to neighbor Switch according to corresponding time interval.
<b>&lt;time&gt;</b>	Hello time interval.The appropriate hello time interval can ensure that the switch can find the link fault in the network in time without taking up too much network resources.Range for 1-2s,the default is 2s.

**【Example】**

**Example 1:** Set the hello time's transmission period as 1s.

OLT(config)#spanning-tree timer hello 1
OLT(config)#

## 14.6. Config STP Bridge Max-age Time

<b>Command</b>	OLT(config)# <b>spanning-tree timer max-age &lt;time&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set max age time.It is used to estimate whether the message is time out.After setting max age time,the device will discard the time out message.range for 6-40s,the default is 20s.
<b>&lt;time&gt;</b>	Max age time

**【 Example 】**

**Example 1:** Set the max age time as 6s.

```
OLT(config)#spanning-tree timer max-age 6
```

```
OLT(config)#
```

## 14.7. Config STP BPDU TX Hold Count

<b>Command</b>	OLT(config)# <b>spanning-tree hold-count &lt;hold-count&gt;</b>
<b>View</b>	Config view
<b>Description</b>	BPDU is the message frame exchanged between the switches that run STP.BPDU includes path and priority info of STP,STP determines the root bridge and root bridge path by BPDU.
<b>&lt;hold-count&gt;</b>	BPDU transmission rate,the maximum transmission number of BPDU in each hello time period,range for 1-10,unit is pps.

**【 Example 】**

**Example 1:** Set the hold-count as 2 pps.

```
OLT(config)#spanning-tree hold-count 2
```

```
OLT(config)#
```

## 14.8. Config OLT Port STP Cost

<b>Command</b>	OLT(config)# <b>spanning-tree port &lt;port-id&gt; cost &lt;cost&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the cost of GE port spanning tree.when there are multi links between two devices but not the root port,device determines the optimal path by the cost.
<b>&lt;port-id&gt;</b>	Port id to be set
<b>&lt;cost&gt;</b>	Cost value,range for 1-200000000

**【 Example 】**

**Example 1:** Set the cost of GE1 spanning tree as 2000.

```
OLT(config)#spanning-tree port ge 0/0/1 cost 2000
```

```
OLT(config)#
```

## 14.9. Config OLT Port STP Edged-port

<b>Command</b>	OLT(config)# <b>spanning-tree port &lt;port-id&gt; edged-port {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set spanning tree edged-port of GE port.If user specifies a port as edged-port,then the port can rapidly migrate from blocking status to forwarding status without waiting for delay time.User can only set the port which is connected with terminal as edged-port.The default is not edged-port.
<b>&lt;port-id&gt;</b>	Port id to be set
<b>{enable   disable }</b>	enable:Set this port as edged-port disable:Set this port as non-edged-port

**【Example】**

**Example 1:** Set GE1 as edged-port.

```
OLT(config)#spanning-tree port ge 0/0/1 edged-port enable
OLT(config)#
```

## 14.10. Config OLT Port STP Mcheck Property

<b>Command</b>	OLT(config)# <b>spanning-tree port &lt;port-id&gt; mcheck</b>
<b>View</b>	GE view
<b>Description</b>	This command is used to set mcheck property of GE port spanning tree.Mcheck property is used to detect whether the device which is running in STP compatible mode can transfer to RSTP mode.We can check whether there are any network bridge existing in the network segment connected with current ethernet port.If it is yes,RSTP protocol will transfer the port protocol running mode to STP mode.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8

**【Example】**

**Example 1:** Set the mcheck property of GE1.

```
OLT(config)#spanning-tree port ge 0/0/1 mcheck
OLT(config)#
```

## 14.11. Config OLT Port STP Point-to-Poing Function

<b>Command</b>	OLT(config)# <b>spanning-tree port &lt;port-id&gt; point-to-point</b>
----------------	---

	<b>{auto/true/false}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set P2P function of GE port spanning tree.if the bridge is working in RSTP mode,a couple of port connected by P2P link can migrate to forwarding status by transferring synchronize message which decreases unnecessary transmission delay time.If set it as auto mode,RSTP protocol can detect automatically whether the current ethernet port has connection with P2P link.it can set as manual mode also,but what we suggestion is setting it as auto mode.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>{auto/true/false}</b>	auto:Auto connect to P2P link true:Connect the GE port with P2P link false:Disconnect the GE port with P2P link

**【Example】**

**Example 1:** Set the running mode of GE1 P2P link as true.

```
OLT(config)#spanning-tree port ge 0/0/1 point-to-point true
OLT(config)#
```

## 14.12. Config OLT Port STP Priority

<b>Command</b>	OLT(config)# <b>spanning-tree port &lt;port-id&gt; priority &lt;port-priority&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the priority of GE port.It can include specified ethernet port into spanning tree by setting ethernet port priority,generally,the smaller the value is,the higher the port priority is,and this port is more likely to include into spanning tree.If all the ethernet port of network bridge adopts to the same priority value,the priority of ethernet port is depended on port index number.
<b>&lt;port-id&gt;</b>	Port id to be set,range for 1-8
<b>&lt;port-priority&gt;</b>	Port priority,range for 0-240,step size for 16.The default value is 128.

**【Example】**

**Example 1:** Set the priority as 160 for GE1 spanning tree.

```
OLT(config)#spanning-tree port ge 0/0/1 priority 160
OLT(config)#
```

### 14.13. Show OLT Port STP Configuration

<b>Command</b>	OLT(config)# <b>show spanning-tree port {ge xge} &lt;port-id&gt;</b>
<b>view</b>	Config view
<b>Description</b>	This command is used to show spanning tree configuration info of GE port
<b>&lt;port-id&gt;</b>	Port id to be set.

**【Example】**

**Example 1:** Show spanning tree configuration info of GE1.

```
OLT(config)#show spanning-tree port ge 0/0/1
-----ge0/0/1 RSTP STATUS:-----
Port STP Mode:RSTP
Port Priority:160
Port Path Cost:2000
Port Edge Admin:Edge
Port Edge Status:Edge
Port Link Type Admin:P2P
Port Link Type Status:P2P
Port Role:Unknown
Port State:Down
-----
OLT(config)#
```

### 14.14. Show OLT Link-aggregation Group STP Configuration

<b>Command</b>	OLT(config)# <b>show spanning-tree link-aggregation group &lt;group-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show configuration info of spanning tree link-aggregation group.
<b>&lt;group-id&gt;</b>	Group id to be set.

**【Example】**

**Example 1:** show configuration info of spanning tree link-aggregation group1

```
OLT(config)#show spanning-tree link-aggregation group 1
-----lag1 RSTP STATUS:-----
Port STP Mode:RSTP
```

```

Port Priority:128
Port Path Cost:20000
Port Edge Admin:NON-Edge
Port Edge Status:NEdge
Port Link Type Admin:Auto
Port Link Type Status:P2P
Port Role:Unknown
Port State:Down

```

```

-----
OLT(config)#

```

## 15. ACL Configuration Manage

### 15.1. ACL Apply Time-range Cofiguration

ACL time range is distributed into **relative time** and **absolute time**:

**Relative time**:Periodicity time,for example,from 8:30 to 18:30 every Monday.

**Absolute time**:From a specific time to another specific time,for example,from 06/08/2006 12:00am to 08/08/2006 18:00.

#### 15.1.1. Config ACL Apply Relative Time-range

<b>Command</b>	OLT(config)# <b>time-range &lt;time-name&gt; &lt;start-time&gt; to &lt;end-time&gt; &lt;days&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the time range of relative time
<b>&lt;time-name&gt;</b>	Time range name,it is quoted when setting ACL rules.
<b>&lt;start-time&gt;</b>	The start time of relative time,format for HH:MM.It determines a time range with the end time,days define the date when the time range take effect,triple parameters determine a time range.
<b>&lt;end-time&gt;</b>	The end time of relative time,format for HH:MM.It determines a time range with the start time,days define the date when the time range take effect,triple parameters determine a time range.

#### 【 Example 】

**Example 1**: Set a relative time,names it as worktime,the effective time is from 8:00 to 18:30 every Monday.

```

OLT(config)#time-range worktime 08:00 to 18:30 mon

```

```

OLT(config)#

```

### 15.1.2. Config ACL Apply Absolute Time-range

<b>Command</b>	OLT(config)# <b>time-range</b> <time-name> from <start-time> to <end-time>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the time range of absolute time.
<time-name>	Name of time range,it is quoted when setting ACL rules.
<start-time>	The start time of absolute time,format for HH:MM YYYY/MM/DD
<end-time>	The end time of absolute time,format for HH:MM YYYY/MM/DD

#### 【Example】

**Example 1 :** Set an absolute time,names it as test,the effective is from 5/1/2017 8:40 to 12/7/2017 18:00.

```
OLT(config)#time-range test from 8:40 2017/5/1 to 18:00 2017/12/7
OLT(config)#
```

### 15.1.3. Delete ACL Apply Time-range

<b>Command</b>	OLT(config)## <b>no time-range</b> {time-name/all}
<b>View</b>	Config view
<b>Description</b>	This command is used to delete the time range that had been set
{time-name}	Name of time range,input the name of time range to be deleted, “all” means all the time range that had set.

#### 【Example】

**Example 1:** Delete the time range named test

```
OLT(config)#no time-range test
OLT(config)#
```

### 15.1.4. Show ACL Apply Time-range Configuration

<b>Command</b>	OLT(config)## <b>show time-range</b> {time-name/all}
<b>View</b>	Config view

<b>Description</b>	This command is used to show the configured time range
<b>{time-name}</b>	Name of time range,input the name of time range to be deleted, “all” means all the time range that had set.

**【Example】**

**Example 1:** Show the time range named test.

```
OLT(config)#show time-range test
Current time is 2017-12-07 11:40 Thursday
Time-range:test(Active)
From 2017-05-01 08:40 to 2017-12-07 18:00

OLT(config)#
```

## 15.2. Config OLT Basic ACL Function

<b>Command</b>	OLT(acl-basic-2000)#rule <rule-id> {permit deny} source {ip-address any} <sour-wildcard> time-range <name>
<b>View</b>	basic acl view
<b>Description</b>	This command is used to create ACL rule in Acl-basic mode or Acl6-basic mode.when it needs to set rule according to source ip address of message,using this command.We can use packet filter command to filter the message by quoting the ACL rule after setting the acl rule,or uses cooperatively with qos strategy to provide QoS. “no rule”is used to delete acl rule.
<b>&lt;rule-id&gt;</b>	Rule id of ACL,the bigger the id is,the higher the priority.
<b>{permit deny}</b>	Deny:Deny the matched message flow passing Permit:Permit the matched message flow passing
<b>{ip-address any}</b>	ip-address:The source ip segment in ACL rule. any:Match to all source ip address
<b>&lt;sour-wildcard&gt;</b>	wildcard mask:ip address and wildcard mask are used to match the host id,it tells to the device should be match to which bit of an ip address by labeling“0”and“1”.“1”means overlook this bit,“0”means this bit needing to be check.
<b>&lt;name&gt;</b>	Set the effective time range of ACL rule

**【Example】**

**Example 1:** In worktime range,specify the GE1 receive the message of 10.10.10.2 only.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
```



```

OLT(config)#acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
OLT(acl-basic-2000)#rule 1 deny source any time-range working-day
OLT(acl-basic-2000)#exit
OLT(config)#packet-filter inbound 2000 port ge 0/0 1

OLT(config)#

```

### 15.3. Config OLT Advanced ACL Function

<b>Command</b>	<p>OLT(acl-adv-3000)#</p> <p>When the protocol is TCP,the command based ipv4 for:  <b>rule &lt;rule-id&gt; {permit   deny} tcp {[soure &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [destination &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [src-port &lt;port-list&gt;]   [dest-port  &lt;port-list&gt;]   [precedence &lt;precedence-value&gt; ]   [dscp  &lt;dscp-value&gt;]  [time-range &lt;time-range-name&gt;]}</b></p> <p>When the protocol is UDP,the command based ipv4 for:  <b>rule &lt;rule-id&gt; {permit   deny} udp {[soure &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [destination &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [src-port &lt;port-list&gt;]   [dest-port  &lt;port-list&gt;]   [precedence &lt;precedence-value&gt; ]   [dscp  &lt;dscp-value&gt;]  [time-range &lt;time-range-name&gt;]}</b></p> <p>When the protocol is IP,the command based ipv4 for:  <b>rule &lt;rule-id&gt; {permit   deny} ip {[soure &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [destination &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [precedence &lt;precedence-value&gt; ]    [dscp &lt;dscp-value&gt;]  [time-range &lt;time-range-name&gt;]}</b></p> <p>When the protocol is ipinip,the command based ipv4 for:  <b>rule &lt;rule-id&gt; {permit   deny} ipinip {[soure &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [destination &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [precedence &lt;precedence-value&gt; ]    [dscp &lt;dscp-value&gt;]  [time-range &lt;time-range-name&gt;]}</b></p> <p>When the protocol is icmp,the command based ipv4 for:  <b>rule &lt;rule-id&gt; id {permit   deny} icmp {[soure &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [destination &lt;ip-address&gt;  &lt;sour-wildcard&gt;   any]   [precedence &lt;precedence-value&gt; ]    [dscp &lt;dscp-value&gt;]  [time-range &lt;time-range-name&gt;]}</b></p> <p>When the protocol is other protocol,the command based ipv4 for:  <b>rule &lt;rule-id&gt; {permit   deny} &lt;protocol-id&gt; {[soure &lt;ip-address&gt;</b></p>
----------------	--

	<p><b>&lt;sour-wildcard&gt;   any   [destination &lt;ip-address&gt; &lt;sour-wildcard&gt;   any]   [precedence &lt;precedence-value&gt; ]   [dscp &lt;dscp-value&gt;] [[time-range &lt;time-range-name&gt;]]</b></p> <p>Adjust the rule command format as: <b>rule &lt;rule-id&gt; {down/move/up}</b></p> <p>Delete or modify the format of command based ipv4 for: <b>no rule &lt;rule-id&gt; {source   destination   precedence   dscp   src-port   dest-port   time-range   precedence   all}</b></p>
<b>View</b>	adv acl view
<b>Description</b>	<p>This command is used to create ACL rule in Acl-adv mode or Acl6-adv mode. when it needs to set rule according to source address/destination address/ip protocol type/of message or aiming at the protocol characteristic, using this command. We can use packet filter command to filter the message by quoting the ACL rule after setting the acl rule, or uses cooperatively with qos strategy to provide QoS.</p> <p>“no rule” is used to delete acl rule.</p>
<b>&lt;rule-id&gt;</b>	Rule id of ACL, the bigger the id is, the higher the priority.
<b>{permit   deny}</b>	Deny: Deny the matched message flow passing Permit: Permit the matched message flow passing
<b>{ip-address   any}</b>	ip-address: The source ip segment in ACL rule. any: Match to all source ip address
<b>{sour-wildcard}</b>	wildcard mask: ip address and wildcard mask are used to match the host id, it tells to the device should be match to which bit of an ip address by labeling “0” and “1”. “1” means overlook this bit, “0” means this bit needing to be check.
<b>&lt;time-range-name&gt;</b>	The effective time range of acl
<b>&lt;source&gt;</b>	Source ip address of acl matched message
<b>&lt;destination&gt;</b>	Destination ip address of acl matched message
<b>&lt;precedence&gt;</b>	The priority of ip layer matched by acl
<b>&lt;dscp&gt;</b>	Differentiated services code point
<b>&lt;dest-port&gt;</b>	The destination port of TCP or UDP matched by ACL

<b>&lt;src-port&gt;</b>	The source port of TCP or UDP matched by ACL
<b>&lt;ipinip&gt;</b>	ACL matches to ipinip(double ip layer)message.That is to say ip data encapsulation and tunnel,which encapsulates ip within ip,protocol number is 4,it is the same as its definition in RFC 2003.It describes how to obtain the ip datagram and load to another ip datagram.In mobile IP,the new header specifies how the encapsulated datagram is sent to the forwarding address of the mobile node.

**【Example】**

**Example 1:** Create an advanced ACL and matches it to all icmp message.

```
OLT(acl-adv-3000)#rule 1 permit icmp
```

```
OLT(acl-adv-3000)#
```

**Example 2:**Delete ACL rule 1.

```
OLT(acl-adv-3000)#no rule 1 all
```

```
OLT(acl-adv-3000)#
```

## 15.4. Config OLT Link ACL Function

<b>Command</b>	OLT(acl-link-5000)#rule <rule-id> {permit deny} {[cos <cos-value> ]   [destination <des-mac-address> <mac-addrmac-wildcard>]   [ source <src-mac-address> <mac-addrmac-wildcard>]   [ inner-cos <inner-cos-value> ]   [ vlan <vlan-id> ]   [inner-vlan <inner-vlan-id>]   [ type <Ethernet-type>]  [time-range <time-range-name>]}
<b>View</b>	Link acl view
<b>Description</b>	This command is used to create ACL rule in Acl-link mode.when it needs to set rule according to link layer info such as source mac address/source VLAN ID/second layer protocol type/destination mac address of message and etc,using this command.We can use packet filter command to filter the message by quoting the ACL rule after setting the acl rule,or uses cooperatively with qos strategy to provide QoS. "no rule" is used to delete acl rule.
<b>&lt;rule-id&gt;</b>	Rule id of ACL,the bigger the id is,the higher the priority.
<b>{permit deny}</b>	Deny:Deny the matched message flow passing Permit:Permit the matched message flow passing
<b>&lt;destination&gt;</b>	The destination mac address of message matched by acl
<b>&lt;source&gt;</b>	The source mac address of message matched by acl

<b>&lt;mac-addr&gt;</b>	Mac address
<b>&lt;mac-wildcard&gt;</b>	wildcard mask of mac address:mac address and wildcard mask are used to match the host mac address,it tells to the device should be match to which bit of a mac address by labeling“0”and“1”.“1”means overlook this bit,“0”means this bit needing to be check.
<b>&lt;time-range-name&gt;</b>	The effective time range of acl
<b>&lt;inner-cos-value&gt;</b>	Match the inner vlan cos value of second layer message
<b>&lt;cos-value&gt;</b>	Match the outer vlan cos value of second layer message
<b>&lt;vlan-id&gt;</b>	Match the outer vlan id
<b>&lt;inner-vlan-id&gt;</b>	Match the inner vlan id
<b>&lt;Ethernet-type&gt;</b>	Match ethernet type field

**【 Example 】**

**Example 1 :** In work time range,specifying the GE1 receives the message from destination mac address 22-22-22-22-22 only.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
OLT(config)#acl 5000
OLT(acl-link-5000)#rule 2 permit destination 22:22:22:22:22:22 0000-0000-0000
OLT(acl-link-5000)#rule 1 deny destination 22:22:22:22:22:22 FFFF-FFFF-FFFF
OLT(acl-link-5000)#exit
OLT(config)#packet-filter inbound 5000 port ge 0/0 1

OLT(config)#
```

## 15.5. Config OLT PON ACL Function

<b>Command</b>	OLT(acl-pon-8000)#{[8021p] [dscp] [end] [eth-type] [exit] [ip] [mac] [no] [port] [protocol] [show] [tag-num] [vlan-id]}
<b>View</b>	Pon acl view
<b>Description</b>	This command is used to create ACL rule in pon-acl mode.when it needs to set rule according to link layer info such as source mac address/source VLAN ID/second layer protocol type/destination mac address of message and etc,using this command.We can use packet filter command to filter the message by quoting the ACL rule after setting the acl rule,or uses cooperatively with qos strategy to provide QoS.

	“no rule”is used to delete acl rule.
<b>[8021p]</b>	IEEE 8021p matching
<b>[dscp]</b>	DSCP matching
<b>[end]</b>	End current mode and change to view mode
<b>[eth-type]</b>	Ethernet type matching
<b>[exit]</b>	Exit current mode and down to previous mode
<b>[ip]</b>	IP address matching
<b>[mac]</b>	MAC address matching
<b>[no]</b>	Negate a command or set its defaults
<b>[port]</b>	IP protocol port matching
<b>[protocol]</b>	IP protocol matching
<b>[show]</b>	Show information
<b>[tag-num]</b>	VLAN tag number matching
<b>[vlan-id]</b>	VLAN ID matching

#### 【Example】

**Example 1:** Apply acl 8001 to pon 1 downstream data flow.its function is adding inner vlan 121 for downstream data flow in pon 1 which carries with dst-ip 192.168.1.1 and src-ip 192.168.2.2

```
OLT(config)#acl 8001
OLT(acl-pon-8001)#ip dst-ip 192.168.1.1 src-ip 192.168.2.2
Exit!
OLT(config)#Traffic-modify pon-port 0/0 1 downstream precedence 4 acl 8001
add-inner-vlan 121
```

## 15.6. Config ONU ACL Function

<b>Command</b>	OLT(acl-onu-9000)#rule {rule-id} match <b>{[cos]  [dscp-v4]  [dscp-v6]  [dst-ip]  [dst-mac]  [dst-port]  [eth-type]  [ip-version]  [protocol]  [src-ip]  [src-mac]  [src-port]  [vlan-id]}</b>
<b>View</b>	Onu acl
<b>Description</b>	This command is used to create ACL rule in pon-acl mode.when it needs to set rule according to link layer info such as source mac address/source VLAN ID/second layer protocol type/destination mac

	address of message and etc,using this command.We can use packet filter command to filter the message by quoting the ACL rule after setting the acl rule,or uses cooperatively with qos strategy to provide QoS. "no rule"is used to delete acl rule.
<b>&lt;rule-id&gt;</b>	Rule id of ACL,the bigger the id is,the higher the priority.
<b>cos</b>	802.1p priority
<b>dscp-v4</b>	DSCPv4
<b>dscp-v6</b>	DSCPv6
<b>dst-ip</b>	Destination IP address
<b>dst-mac</b>	Destination MAC address
<b>dst-port</b>	Destination IP protocol port
<b>eth-type</b>	Ethernet type
<b>ip-version</b>	IP version
<b>protocol</b>	IP protocol
<b>src-ip</b>	Source IP address
<b>src-mac</b>	Source MAC address
<b>src-port</b>	Source IP protocol port
<b>vlan-id</b>	VLAN ID

#### 【Example】

**Example 1:** Create acl 9000 and set rule 1,apply it to ont 1's eth 1 in pon 1,its function is mapping the flow which carries with dst-ip 192.168.1.3 to queue 0 and marks its priority as 0.

```
OLT(config)#acl 9000
ACL ID Create OK!
OLT(acl-onu-9000)#rule 1 match dst-ip always-match 192.168.1.3
OLT(acl-onu-9000)#exit
OLT(config)#interface epon 0/0
OLT(config-interface-epon-0/0)#ont port classification 1 1 eth 1 acl 9000 rule 1
precedence 4 queue-mapped 0 priority-mark 0

OLT(config)#
```

## 15.7. Show OLT ACL Configuration

<b>Command</b>	OLT(config)# <b>show acl {acl-id all/detail}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the configuration of acl.
<b>&lt;acl-id&gt;</b>	ACL id to be show
<b>&lt;all&gt;</b>	Show all the acl
<b>&lt;detail&gt;</b>	Detail info

**【Example】**

**Example 1:** Show the configuration fo all acl

<pre>OLT(config)#show acl all  Basic ACL 2000,0 rules hold  Advanced ACL 3000,0 rules hold  Link ACL 5000,0 rules hold  OLT(config)#</pre>
--

## 15.8. Modify OLT ACL Rule ID

<b>Command</b>	OLT(config)acl-basic-2000)# <b>rule &lt;ruld id&gt; {up/down/move to}</b>
<b>View</b>	basic acl view,adv acl view,Link acl view
<b>Description</b>	acl acl-id down:The rule id is reduced by one without changing the rule content acl acl-id up:Add one for rule id without changing the rule content acl acl-id move to:Modify the value of rule-id to a specify rule id without change the rule content. (the rule which had been bound to the port can not adjust the value of rule id)
<b>&lt;ruld id&gt;</b>	Rule id
<b>{up/down/move to}</b>	down:The rule id is reduced by one without changing the rule content up:Add one for rule id without changing the rule content move to:Modify the value of rule-id to a specified rule id without change the rule content.

**【Example】**

**Example 1:** Modify rule 1 as rule 3.

```
OLT(acl-basic-2000)#rule 1 move to 3
```

```
OLT(acl-basic-2000)#
```

## 16. OLT QOS Configuraiton

### 16.1. Config OLT Global QOS mode

<b>Command</b>	OLT(config)# <b>qos global mode {device-based   port-based}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set global QOS mode
<b>{device-based   port-based}</b>	device-based:device-based QOS port-based:port-based QOS

#### 【Example】

**Example 1:** Set device-based QOS.

```
OLT(config)#qos global mode device-based
```

```
OLT(config)#
```

### 16.2. Config Traffic Control Based On ACL Rule

#### 16.2.1. Config Packet Filter Based On ACL Rules

<b>Command</b>	OLT(config)# <b>packet-filter {inbound outbound} &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge   pon xge} &lt;port-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to match the acl rule for the specified port.When it needs to filter the the flow in port by acl rule,using this command. “no packet-filter.....”is used to delete the acl rule in specified port.
<b>{inbound outbound}</b>	inbound:The ingress flow Outbound:The egress flow
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port list



**【Example】**

**Example 1 :** In the work time range,specify GE1 can only receive the message from mac address 22-22-22-22-22-22.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
OLT(config)#acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
OLT(acl-basic-2000)#rule 1 deny source any time-range worktime
OLT(acl-basic-2000)#exit
OLT(config)#packet-filter inbound 2000 port ge 0/0 1

OLT(config)#
```

**16.2.2. Changes Traffic DSCP Based On ACL Rule**

<b>Command</b>	OLT(config)# <b>traffic-dscp {inbound outbound} &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge pon xge} &lt;port-id&gt; remark-dscp &lt;remark-dscp-value&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to match the acl for specified port to re-mark the value of DSCP. “no traffic-dscp.....”is used cancel the acl in specified port.
<b>{inbound outbound}</b>	inbound:The ingress flow Outbound:The egress flow
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port list
<b>&lt;remark-dscp-value&gt;</b>	Remark DSCP value

**【Example】**

**Example 1 :** In work timme range,re-mark the DSCP value as 43 for the message from 10.10.10.2.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day

OLT(config)#acl 2000

OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime

OLT(acl-basic-2000)#exit

OLT(config)#traffic-dscp inbound 2000 port ge 0/0 1 remark-dscp 43
```

OLT(config)#

### 16.2.3. Config Traffic Mirror Based On ACL Rule

<b>Command</b>	OLT(config)# <b>traffic-mirror inbound &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge pon xge} &lt;port-id&gt; to {ge xge} &lt;port-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to mirror the acl matched flow for specified port. “no traffic-mirror.....”is used to cancel the acl matched flow mirror in specified port.
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port id

#### 【 Example 】

**Example 1:** In work time range, mirror the message from GE1 10.10.10.2 to the port 2.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
OLT(config)#acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
OLT(acl-basic-2000)#exit
OLT(config)#traffic-mirror inbound 2000 port ge 0/0 1 to ge 0/0 2

OLT(config)#
```

### 16.2.4. Config Traffic Limit Based On ACL Rule

<b>Command</b>	OLT(config)## <b>traffic-limit {inbound outbound} &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge pon xge} &lt;port-id&gt; cir &lt;rate-value&gt; pir &lt;rate-value&gt; exceed {drop remark-dscp}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set traffic-limit for specified port by match the acl. “no traffic-limit.....”is used to delete the acl matched traffic-limit in specified port.
<b>{inbound outbound}</b>	inbound:The ingress flow Outbound:The egress flow
<b>&lt;acl-id&gt;</b>	ACL id

<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-list&gt;</b>	Port list
<b>{drop remark-dscp}</b>	drop:discard remark:Re-mark the DSCP value

**【 Example 】**

**Example 1:** In work time range, set the traffic-limit for the ingress direction message from GE1 10.10.10.2. In which the cir is 1M, pir is 100M, and discard the transfinite flow.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
OLT(config)#acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
OLT(acl-basic-2000)#exit
OLT(config)#traffic-limit inbound 2000 port ge 0/01 cir 1024 pir 102400 exceed drop
OLT(config)#
```

### 16.2.5. Add Traffic Outer VLAN Based On ACL Rule

<b>Command</b>	OLT(config)## <b>traffic-outervlan inbound &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge   pon   xge} &lt;port-id&gt; vlan &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to add outer vlan for acl matched flow in specified port. “no traffic-outervlan.....” is used to cancel the command mentioned above.
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port id
<b>&lt;vlan-id&gt;</b>	Outer vlan id

**【 Example 】**

**Example 1:** In work time range, add outer vlan 10 for the message from GE1 10.10.10.2

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day

OLT(config)#acl 2000

OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime

OLT(acl-basic-2000)#exit
```

```
OLT(config)#traffic-outervlan inbound 2000 port ge 0/0/1 vlan 10

OLT(config)#
```

### 16.2.6. Translate Traffic VLAN Based On ACL Rule

<b>Command</b>	OLT(config)## <b>traffic-translate inbound &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge pon xge} &lt;port-id&gt; vlan &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to translate the vlan id of acl matched port's egress or ingress flow into new vlan id.
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port id
<b>&lt;vlan-id&gt;</b>	New vlan id

#### 【Example】

**Example 1:** Translate the vlan id of the flow in GE5 which had been bound to acl2000 and rule2 into vlan 19.

```
OLT(config)#traffic-translate inbound 2000 rule-id 2 port ge 0/0/5 vlan 19

OLT(config)#
```

### 16.2.7. Modify Traffic VLAN Priority Based On ACL Rule

<b>Command</b>	OLT(config)## <b>traffic-priority inbound &lt;acl-id&gt; rule-id &lt;rule-id&gt; port{ge  pon xge} &lt;port-id&gt; remark-priority &lt;pri-value&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the acl vlan priority for specified port. "no traffic-priority....."is used to cancel the vlan priority on specified port.
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-id&gt;</b>	Port id
<b>&lt;pri-value&gt;</b>	Priority value

#### 【Example】

**Example 1 :** In work time range, set the vlan priority as 2 for the message from GE1 10.10.10.2.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day

OLT(config)#acl 2000

OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime

OLT(acl-basic-2000)#exit

OLT(config)#traffic-priority inbound 2000 port ge 0/0 1 remark-priority 2

OLT(config)#
```

### 16.2.8. Config Traffic Redirect Based On ACL Rule

<b>Command</b>	OLT(config)## <b>traffic-redirect inbound &lt;acl-id&gt; rule-id &lt;rule-id&gt; port {ge   pon   xge} &lt;port-id&gt; to {ge   xge}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set traffic-redirect for acl matched flow in specified port. “no traffic-redirect” is used to cancel the traffic-redirect. (Redirect the acl matched message in specified port or port list to other port and transfer. After setting, the old port will not transfer the redirect message, but it will be transferred by the new port. In addition, a correct vlan setting in the port is needed)
<b>&lt;acl-id&gt;</b>	ACL id
<b>&lt;rule-id&gt;</b>	Rule id in acl
<b>&lt;port-list&gt;</b>	Port list

**【Example】**

**Example 1:** In work time range, redirect the message from GE1 10.10.10.2 to GE2.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day
OLT(config)#acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
OLT(acl-basic-2000)#exit
OLT(config)#traffic-redirect inbound 2000 port ge 0/0 1 to ge 0/0 2

OLT(config)#
```

### 16.2.9. Modify Traffic TOS Value Based On ACL Rule

<b>Command</b>	OLT(config)# <b>traffic-tos</b> {inbound outbound} <acl-id> rule-id <rule-id> port {ge   pon xge} <port-id> remark-tos <Tos value>
<b>View</b>	Config view
<b>Description</b>	This command is used to modify the tos value of the acl matched value.
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-id>	Port list
<Tos value>	Tos vlaue

**【Example】**

**Example 1:** In work time range, modify the tos value of the message from GE1 10.10.10.2 as 3.

```
OLT(config)#time-range worktime 8:00 to 18:00 working-day

OLT(config)#acl 2000

OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime

OLT(acl-basic-2000)#exit

OLT(config)#traffic-tos inbound 2000 rule-id 2 port ge 0/0 1 remark-tos 3

OLT(config)#
```

### 16.2.10. Config ACL Action and Bind ACL to PON Port

<b>Command</b>	OLT(config)# <b>traffic-modify</b> pon-port <port-id> {downstream upstream} precedence <precedence-id> acl <acl-id> <action>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the pon-acl matched flow(it uses with pon acl 8000-8199)
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-id>	Port id

<b>&lt;Precedence-id&gt;</b>	ACL priority,the command with higher priority will execute firstly.
<b>&lt;downstream upstream&gt;</b>	downstream upstream
<b>&lt;action&gt;</b>	8021p:vlan priority deny:Deny corresponding flow passing add-inner-vlan:Add inner vlan for the highest priority acl matched flow in pon port. add-top-vlan:Add outer vlan for the highest priority acl matched flow in pon port. strip-inner-vlan:Peel the inner vlan for the highest priority acl matched flow in pon port. strip-top-vlan:Peel the outer vlan for the highest priority acl matched flow in pon port. swap-inner-vlan:Replace the inner vlan of the highest priority acl matched flow in pon port. swap-top-vlan:Replace the outer vlan of the highest priority acl matched flow in pon port.

**【 Example 】**

**Example 1 :** Add outer vlan 1000 for the flow which vlan is 100-200 in pon1 upstream direction.

```
OLT(config)#acl 8000

OLT(acl-pon-8000)#vlan-id top-vid 100 to 200

OLT(acl-pon-8000)#exit

OLT(config)#traffic-modify pon-port 0/0 1 upstream precedence 4 acl 8000
add-top-vlan 1000

OLT(config)#
```

### 16.2.11. Config ACL Action and Bind ACL to ONU

<b>Command</b>	OLT(config)# <b>traffic-modify</b> <b>pon-port</b> <b>&lt;port-id&gt;</b> <b>&lt;onu-id&gt;</b> <b>&lt;downstream upstream&gt;</b> <b>precedence</b> <b>&lt;precedence-id&gt;</b> <b>acl</b> <b>&lt;acl-id&gt;</b> <b>&lt;action&gt;</b>
<b>View</b>	Config view
<b>Description</b>	The traffic-modify command is used to modify the data of the PON port and the ONU (this command is used together with the pon acl (8000-8199) part)

<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<onu-id>	ONU id
<Precedence-id>	ACL priority,the command with higher priority will execute firstly.
<downstream upstream>	downstream upstream
<action>	8021p:vlan priority deny:Deny corresponding flow passing add-inner-vlan:Add inner vlan for the highest priority acl matched flow in pon port. add-top-vlan:Add outer vlan for the highest priority acl matched flow in pon port. strip-inner-vlan:Peel the inner vlan for the highest priority acl matched flow in pon port. strip-top-vlan:Peel the outer vlan for the highest priority acl matched flow in pon port. swap-inner-vlan:Replace the inner vlan of the highest priority acl matched flow in pon port. swap-top-vlan:Replace the outer vlan of the highest priority acl matched flow in pon port.

**【Example】**

**Example 1 :** Apply the outer vlan 1000 to the data of the uplink data stream vlan of the ONU1 under the PON from 100 to 200.

```
OLT(config)# acl 8000

OLT(acl-pon-8000)# vlan-id top-vid 100 to 200

OLT(acl-pon-8000)# exit

OLT(config)# traffic-modify ont 0/0 1 1 upstream precedence 4 acl 8000 add-top-vlan 1000

OLT(config)#
```

### 16.2.12. Show ACL Bind Configuration

<b>Command</b>	OLT(config)# <b>show traffic-modify {all pon-port ont}</b>
<b>View</b>	Config view



<b>Description</b>	This command is used to show configuration info of pon-acl traffic-modify
<b>{all ont-pon ont}</b>	all:show all the configuration info of pon-acl pon-port:show pon-acl configuration info of pon port ont:show pon-acl configuration info of onu

**【Example】**

**Example 1:** Show all the configuration info of pon-acl

```
OLT(config)#show traffic-modify all
traffic-modify pon-port 0/0 1 upstream precedence 4 acl 8000 add-top-vlan 1000
traffic-modify ont 0/0 1 1 upstream precedence 4 acl 8000 swap-top-vlan 1000

OLT(config)#
```

### 16.2.13. Show Port Packet-filter Policy Configuration

<b>Command</b>	OLT(config)# <b>show packet-filter {all port}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show packet-filter strategy in the port
<b>{all port}</b>	all:Show all the packet filter configuration port:Show packet filter strategy of specified port

**【Example】**

**Example 1:** Show all the packet filter configuration

```
OLT(config)#show packet-filter all
-----
inbound acl 2000 rule 1 port ge 0/0 1 running
inbound acl 2000 rule 2 port ge 0/0 1 not running
inbound acl 2000 rule 3 port ge 0/0 1 not running
-----

OLT(config)#
```

### 16.2.14. Show Port QOS Configuration Information

<b>Command</b>	OLT(config)# <b>show qos-info {all traffic-dscp traffic-tos traffic-limit traffic-mirror traffic-outer-vlan traffic-priority traffic-redirect traffic-statistic traffic-translate } port {ge pon xge} &lt;port-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show qos strategy of the port

<all>	All of the qos strategy
<port-list>	Port list

**【Example】**

**Example 1:** Show all the QOS strategy of GE1.

```
OLT(config)#show qos-info all port ge 0/0/1

traffic-tos on ge 0/0/1:
Inbound:
Matches:acl 2000 rule 1 running
Remark-tos:3

OLT(config)#
```

### 16.3. Config OLT QOS Queue

#### 16.3.1. Config OLT QOS Queue Mapping Mode

<b>Command</b>	OLT(config)# <b>qos cosq-map mode {cos   diffserv   tos}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the mapping mode of system queue
<b>&lt;cos   diffserv   tos&gt;</b>	Cos:The mapping mode is based on 802.1p diffserv:The mapping mode is based on diffserv Tos:The mapping mode is based on tos

**【Example】**

**Example 1:** Set the QOS mapping mode as 802.1p.

```
OLT(config)#qos cosq-map mode cos

OLT(config)#
```

#### 16.3.2. Config QOS Queue Mapping Mode Based On 802.1p

<b>Command</b>	OLT(config)# <b>qos cosq-map cos0 &lt;Queue id&gt; cos1 &lt;Queue id&gt; cos2 &lt;Queue id&gt; cos3 &lt;Queue id&gt; cos4 &lt;Queue id&gt; cos5 &lt;Queue id&gt; cos6 &lt;Queue id&gt; cos7 &lt;Queue id&gt;</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to set the mapping table of system queue and 802.1p
<b>&lt;Queue id&gt;</b>	Queue id,range for 0-7

**【Example】**

**Example 1:** Set the mapping table of system queue and 802.1p

```

OLT(config)#qos cosq-map cos0 1 cos1 2 cos2 3 cos3 4 cos4 5 cos5 6 cos6 7 cos7 0

OLT(config)#

OLT(config)#show qos queue-scheduler

Queue scheduler mode:SP

-----
Queue Scheduler Mode WRR Weight Bandwidth(kbps)
-----
0 SP--
1 SP--
2 SP--
3 SP--
4 SP--
5 SP--
6 SP--
7 SP--

-----

Queue map mode:Cos

-----
Priority Queue

-----
0 1
1 2
2 3
3 4
4 5
5 6
6 7
7 0
-----

```

### 16.3.3. Config OLT QOS Queue Scheduled Mode

<p><b>Command</b></p>	<pre>OLT(config)#qos queue-scheduler strict-priority OLT(config)#qos queue-scheduler wrr &lt;queue0-weight queue1-weight queue2-weight queue3-weight queue4-weight queue5-weight queue6-weight tqueue7-weight&gt; OLT(config)#qos queue-scheduler bandwidth cos0 &lt;bandwidth&gt; cos1 &lt;bandwidth&gt; cos2 &lt;bandwidth&gt; cos3 &lt;bandwidth&gt; cos4 &lt;bandwidth&gt; cos5 &lt;bandwidth&gt; cos6 &lt;bandwidth&gt; cos7 &lt;bandwidth&gt;</pre>
<p><b>View</b></p>	<p>Config view</p>
<p><b>Description</b></p>	<p>This command is used to set system queue scheduled mode.The message which is sending from the same port is divided into several queue by Queue scheduling,and schedules them between queue and queue,it decides the sending sequence of queue.when the user needs to select different queue scheduling mode according to the importance of service,and ensure that the QoS guarantees are still available for important business when the network is blocked,using this command.After setting,the system will send the queue message according to new dispatching mode.</p> <p>System support PQ,WRR,WRR+PQ dispatching mode.when a queue is null,it can switch to next queue immediately and dispatch,which can make full use of bandwidth source.</p>
<p><b>strict-priority</b></p>	<p>Strict-priority scheduling,When this mode is applied,the system schedules strictly according to the priority of the queue.Only high priority queue is null,the low priority queue can be scheduled.The disadvantage of the PQ scheduling mode shows as follows:</p> <p>When the blocking is happening,if the high priority queue has some groups existing for a long time,corresponding apply will time out for the reason that the message with low priority can not be scheduled in time.</p>
<p><b>wrr</b></p>	<p>Weighted Round Robin.When this mode is applied,it needs to match a weight for each queue(weight means the obtained resource proportion),it takes turns to scheduling according to the weight in queue and assure each queue can obtain definite service.Each queue has the same priority but different weights,the bigger weight it is,the longer scheduling time obtained by this queue.In this way it can assure the lowest priority queue which can obtain definite service at least.avoiding that the message in low priority queue can not obtain service for a long time when adopting the PQ scheduling mode.</p>

	queue0-weight/queue1-weight/queue2-weight/queue3-weight/queue4-weight/queue5-weight/queue6-weight/queue7-weight: the weight of each queue.system supports 8 queues,the weight's sum of 8 queues is 100.
<b>WRR+PQ</b>	WRR+PQ scheduling mode is a mixture of WRR and PQ scheduling modes.When the scheduling mode is WRR,and the weight value of queue has 0,the queue scheduling mode is PQ+WRR.In this mode,system will schedule the queue with 0 weight first according to PQ mode,and then schedules the queue with non-zero weight according to WRR mode,the priority of PQ queue is higher than WRR queue in the meantime. System default scheduling mode is PQ mode.

**【Example】**

**Example 1:** Set the scheduling mode of pon1 as WRR mode,let the messages with various kinds of priority can be scheduled.The weight of queue 0-7 is 15 15 20 10 10 10 10 10.

```
OLT(config)#qos queue-scheduler port-based epon 0/0 1 wrr 15 15 20 10 10 10 10 10
OLT(config)#
```

### 16.3.4. Show OLT QOS Queue Schedule Mode

<b>Command</b>	OLT(config)# <b>show qos queue-schedule</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show system queue-schedule mode.

**【Example】**

**Example 1:** Show system queue-schedule mode.

```
OLT(config)#show qos queue-scheduler

Queue scheduler mode:SP

-----
Queue Scheduler Mode WRR Weight Bandwidth(kbps)
-----
0 SP--
1 SP--
2 SP--
3 SP--
4 SP--
5 SP--
6 SP--
```

```

7 SP--
-----

Queue map mode:Cos
-----

Priority Queue
-----

0 1
1 2
2 3
3 4
4 5
5 6
6 7
7 0
-----

OLT(config)#

```

## 16.4. OLT Port QOS Queue Configuration

### 16.4.1. Config OLT Port QOS Queue Mapping Mode

<b>Command</b>	OLT(config)# <b>qos cosq-map port-based {cos diffserv tos} {epon ge xge} &lt;port-id&gt; &lt;parameter&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set mapping mode of port-based queue
<b>{cos diffserv tos}</b>	Cos:The mapping mode is based on 802.1p diffserv:The mapping mode is based on diffserv Tos:The mapping mode is based on tos

#### 【Example】

**Example 1:** Set the mapping mode of pon1 queue as 802.1q.

```

OLT(config)#qos global mode port-based

OLT(config)#qos cosq-map port-based cos epon 0/0 1

OLT(config)#

```

### 16.4.2. Config OLT Port QOS Queue Mapping Mode Based On

## 802.1p

<b>Command</b>	OLT(config)# <b>qos cosq-map port-based cos {epon ge xge} &lt;port-id&gt; cos0 &lt;Queue id&gt; cos1 &lt;Queue id&gt; cos2 &lt;Queue id&gt; cos3 &lt;Queue id&gt; cos4 &lt;Queue id&gt; cos5 &lt;Queue id&gt; cos6 &lt;Queue id&gt; cos7 &lt;Queue id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the mapping table between port-based queue and 802.1p
<b>&lt;Queue id&gt;</b>	Queue id,range for 0-7

### 【Example】

**Example 1:** Set the mapping table between pon1 queue and 802.1q

```
OLT(config)#qos cosq-map port-based cos epon 0/0 1
```

```
OLT(config)#qos cosq-map port-based cos epon 0/0 1 cos0 1 cos1 2 cos2 3 cos3 4 cos4 5 cos5 6 cos6 7 cos7 0
```

```
OLT(config)#
```

## 16.4.3. Config OLT Port QOS Queue Schedule Mode

<b>Command</b>	OLT(config)# <b>qos queue-scheduler port-based {epon ge xge} &lt;port-id&gt; strict-priority</b> OLT(config)# <b>qos queue-scheduler port-based {epon ge xge} &lt;port-id&gt; wrr &lt;queue0-weight queue1-weight queue2-weight queue3-weight queue4-weight queue5-weight queue6-weight queue7-weight&gt;</b> OLT(config)# <b>qos queue-scheduler port-based {epon ge xge} &lt;port-id&gt; bandwidth cos0 &lt;bandwidth&gt; cos1 &lt;bandwidth&gt; cos2 &lt;bandwidth&gt; cos3 &lt;bandwidth&gt; cos4 &lt;bandwidth&gt; cos5 &lt;bandwidth&gt; cos6 &lt;bandwidth&gt; cos7 &lt;bandwidth&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set system queue scheduled mode.The message which is sending from the same port is divided into several queue by Queue scheduling,and schedules them between queue and queue,it decides the sending sequence of queue.when the user needs to select different queue scheduling mode according to the importance of service,and ensure that the QoS guarantees are still available for important business

	<p>when the network is blocked,using this command.After setting,the system will send the queue message according to new dispatching mode.</p> <p>System support PQ,WRR,WRR+PQ dispatching mode.when a queue is null,it can switch to next queue immediately and dispatch,which can make full use of bandwidth source.</p>
<b>strict-priority</b>	<p>Strict-priority scheduling,When this mode is applied,the system schedules strictly according to the priority of the queue.Only high priority queue is null,the low priority queue can be scheduled.The disadvantage of the PQ scheduling mode shows as follows:</p> <p>When the blocking is happening,if the high priority queue has some groups existing for a long time,corresponding apply will time out for the reason that the message with low priority can not be scheduled in time.</p>
<b>wrr</b>	<p>Weighted Round Robin.When this mode is applied,it needs to match a weight for each queue(weight means the obtained resource proportion),it takes turns to scheduling according to the weight in queue and assure each queue can obtain definite service.Each queue has the same priority but different weights,the bigger weight it is,the longer scheduling time obtained by this queue.In this way it can assure the lowest priority queue which can obtain definite service at least.avoiding that the message in low priority queue can not obtain service for a long time when adopting the PQ scheduling mode.</p> <p>queue0-weight/queue1-weight/queue2-weight/queue3-weight/queue4-weight/queue5-weight/queue6-weight/queue7-weight: the weight of each queue.system supports 8 queues,the weight's sum of 8 queues is 100.</p>
<b>WRR+PQ</b>	<p>WRR+PQ scheduling mode is a mixture of WRR and PQ scheduling modes.When the scheduling mode is WRR,and the weight value of queue has 0,the queue scheduling mode is PQ+WRR.In this mode,system will schedule the queue with 0 weight first according to PQ mode,and then schedules the queue with non-zero weight according to WRR mode,the priority of PQ queue is higher than WRR queue in the meantime.</p> <p>System default scheduling mode is PQ mode.</p>

**【 Example 】**

**Example 1:** Set the scheduling mode of pon1 as WRR mode,let the messages with various kinds of priority can be scheduled.The weight of queue 0-7 is 15 15 20 10 10 10 10 10.

```
OLT(config)#qos queue-scheduler wrr 15 15 20 10 10 10 10 10
```



OLT(config)#

#### 16.4.4. Show OLT Port QOS Queue Schedule Mode

<b>Command</b>	OLT(config)# <b>show qos queue-schedule port-based</b> {epon ge xge} <port-id>
<b>View</b>	Config view
<b>Description</b>	This command is used to show port-based queue-schedule mode

##### 【Example】

##### Example 1: Show pon1 queue-schedule mode

```
OLT(config)#show qos queue-scheduler port-based epon 0/0/1
```

```
Queue scheduler mode on epon 0/0/1:WRR
```

```
-----  
Queue Scheduler Mode WRR Weight Bandwidth(kbps)  
-----
```

```
0 WRR 15-  
1 WRR 15-  
2 WRR 20-  
3 WRR 10-  
4 WRR 10-  
5 WRR 10-  
6 WRR 10-  
7 WRR 10-  
-----
```

```
Queue map mode on epon 0/0/1:Cos
```

```
-----  
Priority Queue  
-----
```

```
0 1  
1 2  
2 3  
3 4  
4 5  
5 6  
6 7  
7 0  
-----
```

OLT(config)#

## 17. OLT DHCP Function Configuration

### 17.1. OLT DHCP-Snooping Function Configuration

#### 17.1.1. Enable or Disable DHCP-Snooping Function

<b>Command</b>	OLT(config)# <b>dhcp-snooping {enable disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable or disable dhcp-snooping function,after enabling this function,the functions showing as follows will be opened at the same time: Trust/un-trust port,MAC address detect,DHCP message rate limit in untrust port,port recovery,option82,dynamic ARP detect and ARP fast reply.
<b>{enable disable}</b>	Enable:enable dhcp-snooping function Disable:disable dhcp-snooping function

#### 【Example】

**Example 1:** Enable dhcp-snooping function

```
OLT(config)#dhcp-snooping enable
```

```
OLT(config)#
```

#### 17.1.2. Show DHCP-Snooping Configuration

<b>Command</b>	OLT(config)# <b>show dhcp-snooping configuration</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show configuration of DHCP-Snooping

#### 【Example】

**Example 1:** Show configuration of DHCP-Snooping

```
OLT(config)#show dhcp-snooping configuration
```

```
-----  
DHCP Snooping Configurations  
-----
```

```
Switch DHCP Snooping status:Enable  
DHCP Snooping verification of hwaddr status:Disable  
DHCP Snooping option82 status:Disable  
DHCP Snooping option82 policy:Keep
```

DHCP Snooping option82 format:Type1  
DHCP Snooping database write-delay time:7200(s)  
Switch ARP detection status:Disable  
Switch ARP reply-fast status:Disable

DHCP Snooping is configured on following vlans:

-----  
-

Port Trusted Rate-limit(pps)

-----  
ge0/0/1 No 300  
ge0/0/2 No 300  
ge0/0/3 No 300  
ge0/0/4 No 300  
ge0/0/5 No 300  
ge0/0/6 No 300  
ge0/0/7 No 300  
ge0/0/8 No 300  
xge0/0/1 No 300  
xge0/0/2 No 300  
pon0/0/1 No 300  
pon0/0/2 No 300  
pon0/0/3 No 300  
pon0/0/4 No 300  
pon0/0/5 No 300  
pon0/0/6 No 300  
pon0/0/7 No 300  
pon0/0/8 No 300  
pon0/0/9 No 300  
pon0/0/10 No 300  
pon0/0/11 No 300  
pon0/0/12 No 300  
pon0/0/13 No 300  
pon0/0/14 No 300  
pon0/0/15 No 300  
pon0/0/16 No 300  
lag1 No 300  
lag2 No 300  
lag3 No 300  
lag4 No 300  
lag5 No 300  
lag6 No 300  
lag7 No 300

```

lag8 No 300
lagL9 No 300
lagL10 No 300
lagL11 No 300
lagL12 No 300
lagL13 No 300
lagL14 No 300
lagL15 No 300
lagL16 No 300
-----
OLT(config)#

```

### 17.1.3. Config DHCP-Snooping Monitor VLAN

<b>Command</b>	OLT(config)# <b>dhcp-snooping vlan &lt;vlan-list&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to add specified monitoring vlan.DHCP message which includes into monitoring vlan will be monitored,DHCP message which does not include into monitoring vlan will be transferred with original shape. “no dhcp-snooping vlan <vlan-list>”is used to delete the specified monitoring vlan.
<b>&lt;vlan-list&gt;</b>	Vlan list

#### 【 Example 】

**Example 1:** Add monitoring vlan 100,200,300

```

OLT(config)#dhcp-snooping vlan 100,200,300

OLT(config)#

```

### 17.1.4. Config DHCP-Snooping Trust Port

<b>Command</b>	OLT(config)# <b>dhcp-snooping trust port {epon/ge/xge/lag} 0/0 &lt;port id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to add dhcp-snooping trust port,trust port can receive all the DHCP message,untrust port can not receive DHCP reply message. “no dhcp-snooping ust port {epon/ge/xge/lag} 0/0 <port id>”is

	used to delete the trust port.
<b>{epon/ge/xge/lag}</b>	Port type Epon:Pon port Ge:Giga uplink port Xge:10 giga uplink port Lag:link aggregation group
<b>0/0</b>	Frame id/slot id,the default is 0/0
<b>&lt;port-id&gt;</b>	Port list,format for 1,2-3,4

**【Example】**

**Example 1:** Add GE1 to dhcp-snooping trust port.

```
OLT(config)#dhcp-snooping trust port ge 0/0 1
OLT(config)#
```

## 17.1.5. Enable or Disable OLT DHCP-Snooping Source MAC

### Address Detect

<b>Command</b>	OLT(config)# <b>dhcp-snooping chaddr-check {enable disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable or disable dhcp-snooping chaddr-check,check whether the source mac address of dhcp request message received by untrust port is the same with CHADDR field,if yes,checking it,else discarding.
<b>{enable disable}</b>	Enable:open dhcp-snooping chaddr-check Disable:close dhcp-snooping chaddr-check

**【Example】**

**Example 1:** Enable dhcp-snooping chaddr-check function

```
OLT(config)#dhcp-snooping chaddr-check enable
OLT(config)#
```

## 17.1.6. Config DHCP-Snooping Request Message Rate Limit

<b>Command</b>	OLT(config)# <b>dhcp-snooping limit-rate &lt;Rate&gt; port {epon/ge/xge/lag} 0/0 &lt;port-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set rate limitation of dhcp request message

	received by untrust port,the message will be discard when it out of range.Rate limitation can be set in trust port but it will not take effect unless set this port as untrust port.
<Rate>	Rate of dhcp request message,range for 1-2048,unit is pps
{epon/ge/xge/lag}	Port type Epon:Pon port Ge:Giga uplink port Xge:10 giga uplink port Lag:link aggregation group
<port id>	Port list,format for 1,2-3,4

**【Example】**

**Example 1:** The rate limitation of DHCP request message received by GE6 is 20pps.

```
OLT(config)#dhcp-snooping limit-rate 20 port ge 0/0 6
```

```
OLT(config)#
```

### 17.1.7. Enable or Disable DHCP-Snooping Option82 Function

<b>Command</b>	OLT(config)# <b>dhcp-snooping option82 {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable disable dhcp-snooping option82 function.This command inserts option82 information into dhcp request message received by untrust port and peels the option82 information from dhcp reply message received by trust port.
{enable   disable}	Enable:Enable dhcp-snooping option82 function Disable:Disable dhcp-snooping option82 function

**【Example】**

**Example 1:** Enable dhcp-snooping option82 function

```
OLT(config)#dhcp-snooping option82 enable
```

```
OLT(config)#
```

### 17.1.8. Config DHCP-Snooping Option82 Forwarding Policy

<b>Command</b>	OLT(config)# <b>dhcp-snooping option82 policy {keep   drop   replace}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the option82 forwarding policy of

	dhcp request message.
<b>keep</b>	Transmit option82 dhcp message according to the original shape
<b>drop</b>	Discard the option82 dhcp message
<b>replace</b>	Replace old option82 in the dhcp message and then transmit

**【Example】**

**Example 1:** Set the dhcp option82 transmission policy as keep.

```
OLT(config)#dhcp-snooping option82 policy keep
```

```
OLT(config)#
```

### 17.1.9. Config DHCP-Snooping option82 Format

<b>Command</b>	OLT(config)# <b>dhcp-snooping option82 format</b> <b>{type1   type2   type3   type4   type5}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the format of dhcp-snooping option82
<b>&lt;type1   type2   type3   type4   type5&gt;</b>	type1:UNI+ONU MAC type2:UNI+OLT MAC type3:ONU+ONU MAC type4:ONU+OLT MAC type5:PON+OLT MAC

**【Example】**

**Example 1:** set the format of dhcp-snooping option82 as type1.

```
OLT(config)#dhcp-snooping option82 format type1
```

```
OLT(config)#
```

### 17.1.10. Config DHCP-Snooping Port Binding Policy

<b>Command</b>	OLT(config)# <b>dhcp-snooping binding&lt;mac address&gt;&lt;ip address&gt;</b> <b>&lt;vlan id&gt; &lt;port id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the binding strategy of dhcp request message
<b>&lt;mac address&gt;</b>	MAC in static binding table,format for AA:BB:CC:DD:EE:FF

<b>&lt;ip address&gt;</b>	IP in static binding table,format for A.B.C.D
<b>&lt;vlan id&gt;</b>	vlan in static binding table,range for<1-4094>
<b>&lt;port id&gt;</b>	Port type Epon:Pon port Ge:Giga uplink port Xge:10 giga uplink port Lag:link aggregation group

**【 Example 】**

**Example 1 :** Add a static binding table entry,mac address is 00:0f:1f:c5:10:08,ip is 192.168.1.101,vlan is 100,port id is GE8.

```
OLT(config)#dhcp-snooping binding 00:0f:1f:c5:10:08 192.168.1.101 100 port ge 0/0/8
OLT(config)#
```

### 17.1.11. Delete DHCP-Snooping Bind-table

<b>Command</b>	OLT(config)# <b>dhcp-snooping bind-table clear {all static dynamic ip-address vlan}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear dhcp-snooping bind-table.
<b>all</b>	Clear all the dhcp-snooping bind-table entry.
<b>static</b>	Clear the static dhcp-snooping bind-table entry.
<b>dynamic</b>	Clear the dynamic dhcp-snooping bind-table entry.
<b>ip-address</b>	Delete the bind-table by specified ip
<b>vlan</b>	Delete the bind-table by specified vlan id

**【 Example 】**

**Example 1:** Clear all the dhcp-snooping bind-table entry.

```
OLT(config)#dhcp-snooping bind-table clear all
OLT(config)#
```

### 17.1.12. Config DHCP-Snooping Bind-table Write-delay Time

<b>Command</b>	OLT(config)# <b>dhcp-snooping bind-table write-delay &lt;Delay time&gt;</b>
<b>View</b>	Config view



<b>Description</b>	This command is used to set dhcp-snooping bind-table write-delay time.After dhcp-snooping binding-table having been updated and waiting for write-delay time,the flash will be written
<b>&lt;Delay time&gt;</b>	Write-delay time,range for 240-86400,unit is second.

**【Example】**

**Example 1:** When the dhcp-snooping has been updated,the flash will be written after 4min.

```
OLT(config)#dhcp-snooping bind-table write-delay 240
```

```
OLT(config)#
```

### 17.1.13. Config DHCP-Snooping Bind-table Delete-time

<b>Command</b>	OLT(config)# <b>dhcp-snooping bind-table delete-time &lt;time&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set dhcp-snooping bind-table dynamic entry delete-time.dynamic table will not be deleted immediately when the lease time is over,but it will be deleted after waiting for the delete-time.
<b>&lt;time&gt;</b>	Dynamic table delay delete-time,range for 1-86400,unit is second

**【Example】**

**Example 1:** When the lease time is expiration dynamic table will be deleted after 240s latter.

```
OLT(config)#dhcp-snooping bind-table delete-time 240
```

```
OLT(config)#
```

### 17.1.14. Config DHCP-Snooping Bind-table Write-to-flash

<b>Command</b>	OLT(config)# <b>dhcp-snooping bind-table write-to-flash</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to write the dhcp-snooping bind-table to the flash by manually.

**【Example】**

**Example 1:** Write the dhcp-snooping bind-table to the flash.

```
OLT(config)#dhcp-snooping bind-table write-to-flash
```

```
OLT(config)#
```

### 17.1.15. Save DHCP-Snooping Bind-table to Server

<b>Command</b>	OLT(config)# <b>dhcp-snooping bind-table save-to-tftp &lt;IP address&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to write the dhcp-snooping bind-table to the flash by manually and save it to the server
<b>&lt;IP address&gt;</b>	The ip address of the TFTP server

**【Example】**

**Example 1:** Write the dhcp-snooping bind-table to the flash by manually and save it to the server 192.168.1.1

```
OLT(config)#dhcp-snooping bind-table save-to-tftp 192.168.1.1

OLT(config)#
```

### 17.1.16. Show DHCP-Snooping Bind-table Entry

<b>Command</b>	OLT(config)# <b>show dhcp-snooping bind-table {all   static   dynamic   ip-address   vlan}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show dhcp-snooping bind-table according to the type.
<b>all</b>	Show all the dhcp-snooping bind-table entry.
<b>static</b>	Show the static dhcp-snooping bind-table entry.
<b>dynamic</b>	Show the dynamic dhcp-snooping bind-table entry.
<b>ip-address</b>	Show the bind-table by specified ip
<b>vlan</b>	Show the bind-table by specified vlan id

**【Example】**

**Example 1:** Show all the dhcp-snooping bind-table entry.

```
OLT(config)#show dhcp-snooping bind-table all
-----
database entries count:1 database entries delete time:240(s)
-----
MacAddress IpAddress Vlan Port Lease(s)Type Status
-----
00:0F:1F:C5:10:08 192.168.1.101 100 ge0/0/8-Static Valid
-----
```

OLT(config)#

### 17.1.17. Enable or Disable DHCP-Snooping arp-reply-fast

<b>Command</b>	OLT(config)# <b>dhcp-snooping arp-reply-fast {enable disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable or disable arp-reply-fast function.After enabling this function,system accords to dhcp-snooping bind-table to judge whether it will execute arp-reply-fast function.When this function is enabled,detecting the Arp message,if there is record in dhcp-snooping bind-table,arp request message will be replied fast rather than transmit to the upper network,thus reducing arp broadcast message.
<b>{enable disable}</b>	Enable:enable dhcp-snooping arp-reply-fast function Disable:disable dhcp-snooping arp-reply-fast function

#### 【Example】

**Example 1:** Enable dhcp-snooping arp-reply-fast function

```
OLT(config)#dhcp-snooping arp-reply-fast enable

OLT(config)#
```

### 17.1.18. Enable or Disable DHCP-Snooping arp-detect Function

<b>Command</b>	OLT(config)# <b>dhcp-snooping arp-detect {enable disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable or disable arp-detect function.After enabling this function,system judge whether the user of arp message is legal according to dhcp-snooping bind-table,thus preventing from the illegal arp attack.
<b>{enable disable}</b>	Enable:Enable dhcp-snooping arp-detect function Disable:Disable dhcp-snooping arp-detect function

#### 【Example】

**Example 1:** Disable dhcp-snooping arp-detect function

```
OLT(config)#dhcp-snooping arp-detect enable

OLT(config)#
```

## 17.2. OLT DHCP-Relay Function Configuration

### 17.2.1. Enable or Disable DHCP-Relay Function

<b>Command</b>	OLT(config)# <b>dhcp-relay {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable or disable dhcp-relay function.
<b>{enable   disable}</b>	Enable:Enable dhcp-relay function Disable:Disable dhcp-relay function

**【Example】**

**Example 1:** Enable dhcp-relay function

```
OLT(config)#dhcp-relay enable

OLT(config)#
```

### 17.2.2. Config DHCP-Relay Vlanif Interface and Server

<b>Command</b>	OLT(config)# <b>dhcp-relay vlanif &lt;vlan-id&gt; server &lt;IP address&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the ip address of DHCP-Relay server
<b>&lt;IP address&gt;</b>	The ip address of dhcp-relay server in vlanif

**【Example】**

**Example 1:** Set The ip address of dhcp-relay server in vlanif 100 as 192.168.100.1

```
OLT(config)#dhcp-relay vlanif 100 server 192.168.100.1

OLT(config)#
```

### 17.2.3. Show DHCP-Relay Configuration

<b>Command</b>	OLT(config)# <b>show dhcp-relay configuration</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show configuration of dhcp-relay

**【Example】**

**Example 1:** Show configuration of dhcp-relay.

```
OLT(config)#show dhcp-relay configuration

-----
Switch DHCP Relay status:Enable
-----

Vlanif Vlanif-Ip Vlanif-netmask Server-Ip
```

```
-----
100--192.168.100.1
-----
```

```
OLT(config)#
```

## 17.3. OLT DHCP-Client Function Configuration

### 17.3.1. Enable or Disable DHCP-Client Function

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>dhcp-client {enable disable}</b>
<b>View</b>	Vlanif view
<b>Description</b>	This command is used to enable or disable dhcp client function
<b>{enable disable}</b>	Enable:Enable dhcp client function Disable:Disable dhcp-rela function

#### 【Example】

**Example 1:** Enable dhcp client function in vlanif 100

```
OLT(config-interface-vlanif-100)#dhcp-client enable
```

```
OLT(config-interface-vlanif-100)#
```

### 17.3.2. Config DHCP-Client Manual Renew IP Address

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>dhcp-client renew</b>
<b>View</b>	Vlanif view
<b>Description</b>	This command is used to enable the switch of renew in vlanif interface.It can be used when the vlanif interface needs to obtain the ip address actively,this command will trigger the system sending request message and asks for the dhcp server renewing the lease or renewing the ip address.

#### 【Example】

**Example1:**Enable the switch of renew in vlanif 100.

```
OLT(config-interface-vlanif-100)#dhcp-client renew
```

```
OLT(config-interface-vlanif-100)#
```

### 17.3.3. Config DHCP-Client Manual Release IP Address

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>dhcp-client release</b>
<b>View</b>	Vlanif view
<b>Description</b>	This command is used to release the ip address of vlanif. Executing this command will trigger the system sending release message to inform the dhcp server to releasing the ip address of vlanif.

**【Example】**

**Example 1:** Release the ip address of vlanif 100.

```
OLT(config-interface-vlanif-100)#dhcp-client release
```

```
OLT(config-interface-vlanif-100)#
```

### 17.3.4. Config DHCP-Client Option60

<b>Command</b>	OLT(config-interface-vlanif-100)# <b>dhcp-client option60&lt;option60&gt;</b>
<b>View</b>	Vlanif view
<b>Description</b>	This command is used to set option60 info carrying by the dhcp-client request message. When the uplink device had set a strategy that proceeds dhcp third layer relay according to option60, we can use this command to set option60 in vlanif interface to match the uplink device. "no dhcp-client option60" is used to delete the configuration of option60 and revert to default value.
<b>&lt;option60&gt;</b>	The info of option60

**【Example】**

**Example 1:** Set option60 of dhcp client in vlanif 100 as "test".

```
OLT(config-interface-vlanif-100)#dhcp-client option60 test
```

```
OLT(config-interface-vlanif-100)#
```

### 17.3.5. Show DHCP-Client Configuration

<b>Command</b>	OLT(config)# <b>show dhcp-client</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the configuration of dhcp-client

**【Example】**

**Example 1:** Show the configuration of dhcp-client.

```
OLT(config)#show dhcp-client
```

```

-----
Index Name FSM IP/MASK Leased Until Time
-----
1 vlanif100 INIT/--
-----

OLT(config)#

```

### 17.3.6. Show DHCP-Client Option60 Configuration

<b>Command</b>	OLT(config)# <a href="#">show dhcp-client option60</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to show dhcp-client option60 info of each vlanif interface.

#### 【Example】

**Example 1:** Show dhcp-client option60 info of each vlanif interface.

```

OLT(config)#show dhcp-client option60
-----
VLANIF OPTION60
-----
100 test
-----

OLT(config)#

```

## 18. OLT Link Aggregation Function Configuration

### 18.1. OLT Link-Aggregation Group Basic Function Config

#### 18.1.1. Add or Delete Link-Aggregation Group Member

<b>Command</b>	OLT(config-interface-aggregation)# <a href="#">member {add/delete} {ge xge} 0/0 &lt;port-list&gt; link-aggregation group &lt;group-id&gt;</a>
<b>View</b>	link-aggregation view
<b>Description</b>	Device supports 16 aggregation group,this command is used to add or delete member port in corresponding aggregation group.
<a href="#">&lt;port-list&gt;</a>	Port id
<a href="#">&lt;group-id&gt;</a>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation</b>

	<b>group</b>
--	--------------

**【Example】**

**Example 1:** Add ge1 and ge2 to link-aggregation group 1.

```
OLT(config-interface-aggregation)#member add ge 0/0 1,2 link-aggregation group 1
```

```
OLT(config-interface-aggregation)#
```

**Example 2:**Delete ge1 and ge2 from link-aggregation group 1.

```
OLT(config-interface-aggregation)#member delete ge 0/0 1,2 link-aggregation group 1
```

```
OLT(config-interface-aggregation)#
```

## 18.1.2. Enable or Disable Link-Aggregation Group Flow-control

### Function

<b>Command</b>	OLT(config-interface-aggregation)# <b>flow-control &lt;group-id&gt; {enable   disable}</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to enable or disable aggregation group flow control function
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Enable the flow control function of aggregation group1

```
OLT(config-interface-aggregation)#flow-control 1 enable
```

```
OLT(config-interface-aggregation)#
```

## 18.1.3. Config Link-Aggregation Group System Priority

<b>Command</b>	OLT(config-interface-aggregation)# <b>lACP set system priority &lt;priority value&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set system priority
<b>&lt;priority value&gt;</b>	Priority value,range for<0-65535>/default

**【Example】**

**Example 1:** Set system priority as 3000.

```
OLT(config-interface-aggregation)#lACP set system priority 3000
```



```
OLT(config-interface-aggregation)#
```

### 18.1.4. Set Link-Aggregation Group Port Priority

<b>Command</b>	OLT(config-interface-aggregation)# <b>link-aggregation port-priority</b> <b>&lt;ge   xge&gt; 0/0 &lt;port-list&gt; &lt;priority value&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set port priority
<b>&lt;port-list&gt;</b>	Port list to be set
<b>&lt;priority value&gt;</b>	Priority value,range for<0-65535>

#### 【Example】

**Example 1:** Set link-aggregation port priority of ge1 as 3000

```
OLT(config-interface-aggregation)#link-aggregation port-priority ge 0/0 1 3000

OLT(config-interface-aggregation)#
```

### 18.1.5. Show Link-Aggregation Group System Priority

<b>Command</b>	OLT(config-interface-aggregation)# <b>show lacp system priority</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show lacp system priority

#### 【Example】

**Example 1:** Show lacp system priority

```
OLT(config-interface-aggregation)#show lacp system priority
lacp system priority value:3000

OLT(config-interface-aggregation)#
```

### 18.1.6. Show Link-Aggregation Group Priority

<b>Command</b>	OLT(config-interface-aggregation)# <b>show link-aggregation port-priority</b> <b>&lt;ge   xge&gt; 0/0 &lt;port-list&gt; &lt;lacp/manual&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show port priority of link-aggregation.
<b>&lt;port-list&gt;</b>	Port list to be set

#### 【Example】

**Example 1:** Show ge1 port priority of link aggregation

```
OLT(config-interface-aggregation)#show link-aggregation port-priority ge 0/0/1 lacp
lacp port priority:32768
```

```
OLT(config-interface-aggregation)#
```

### 18.1.7. Config Link-Aggregation Group MTU

<b>Command</b>	OLT(config-interface-aggregation)# <b>mtu &lt;group-id&gt; &lt;mtu value&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set mtu of link-aggregation
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;mtu value&gt;</b>	mtu value,range for 328-16356

#### 【Example】

**Example 1:** Set the mtu of link-aggregation group1 as 2000

```
OLT(config-interface-aggregation)#mtu 1 2000
```

```
OLT(config-interface-aggregation)#
```

### 18.1.8. Config Link-Aggregation Group Unicast Load Balance Mode

<b>Command</b>	OLT(config-interface-aggregation)# <b>link-aggregation group &lt;group-id&gt; unicast balance {dest-ip dest-mac source-dest-ip source-dest-mac source-ip source-mac}</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set unicast data balance mode of link aggregation
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;balance&gt;</b>	dest-ip:Load sharing unicast according to destination ip address dest-mac:Load sharing unicast according to destination mac address source-dest-ip:Load sharing unicast according to source and destination ip address source-dest-mac:Load sharing unicast according to source and destination mac address source-ip:Load sharing unicast according to source ip address source-mac:Load sharing unicast according to source mac address(default)

**【Example】**

**Example 1:** Set the unicast load balance mode of link-aggregation mode as dest-ip.

```
OLT(config-interface-aggregation)#link-aggregation group 1 unicast balance dest-ip
```

```
OLT(config-interface-aggregation)#
```

### 18.1.9. Config Link-Aggregation Group Non-unicast Load BalanceMode

<b>Command</b>	OLT(config-interface-aggregation)# <b>link-aggregation group non-unicast balance ( dest-mac source-dest-mac source-mac source-port)</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set unicast data balance mode of link aggregation
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;balance&gt;</b>	dest-mac:Load sharing non-unicast according to destination mac address source-dest-mac:Load sharing non-unicast according to source and destination mac address source-mac:Load sharing non-unicast according to source mac address(default) Source-port:Load sharing non-unicast according to source port(default)

**【Example】**

**Example 1:** Set the unicast load balance mode of link-aggregation mode as source-port.

```
OLT(config-interface-aggregation)#link-aggregation group non-unicast balance source-port
```

```
OLT(config-interface-aggregation)#
```

### 18.1.10. Config Link-Aggregation Group Name

<b>Command</b>	OLT(config-interface-aggregation)# <b>port-name &lt;group-id&gt; &lt;port name&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	Set the name of link-aggregation group
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

<b>&lt;port name&gt;</b>	Name of aggregation group,length for<1-17>
--------------------------	--

**【Example】**

**Example 1:** Name link-aggregation group1 as test

```
OLT(config-interface-aggregation)#port-name 1 test
```

```
OLT(config-interface-aggregation)#
```

### 18.1.11. Clear Link-Aggregation Group Statistics

<b>Command</b>	OLT(config-interface-aggregation)# <b>reset statistics port &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to clear the link-aggregation statistic data
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Clear the statistic data of link-aggregation group 1.

```
OLT(config-interface-aggregation)#reset statistics port 1
```

```
OLT(config-interface-aggregation)#
```

### 18.1.12. Enable or Disable Link-Aggregation Group

<b>Command</b>	OLT(config-interface-aggregation)# <b>{no} shutdown &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	Open or shutdown link-aggregation group,open by default.
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Shutdown link-aggregation group1.

```
OLT(config-interface-aggregation)#shutdown 1
```

```
OLT(config-interface-aggregation)#
```

**Example 2:**Open link-aggregation group1.

```
OLT(config-interface-aggregation)#no shutdown 1
```

```
OLT(config-interface-aggregation)#
```

## 18.2. Link-Aggregation Group STP Configuration

### 18.2.1. Config Link-Aggregation Group STP Cost

<b>Command</b>	OLT(config-interface-aggregation))# <b>spanning-tree cost &lt;group-id&gt; &lt;cost&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set the spanning tree cost of link-aggregation group.The optimal path is determined by port cost when there are multi links between two device but nor root port in them.
<b>&lt;group-id&gt;</b>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group
<b>&lt;cost&gt;</b>	Cost value,range for 1-200000000

#### 【Example】

**Example 1:** Set the spanning tree cost of link-aggregation group1 as 2000.

```
OLT(config-interface-aggregation))#spanning-tree cost 1 2000
```

```
OLT(config-interface-aggregation))#
```

### 18.2.2. Enable or Disable Link-Aggregation Group STP Edged-port

<b>Command</b>	OLT(config-interface-aggregation))# <b>spanning-tree edged-port &lt;group-id&gt; {enable   disable}</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set the edged-port of the link-aggregation group.If user specifies a port as edged-port,then when the port migrates forwarding status from congestion status,this port can migrate rapidly doing without waiting for delay time.the user can only set the port which is connected with the terminal as the edged-port.All ports are default to not edged-port.
<b>&lt;group-id&gt;</b>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group
<b>{enable   disable}</b>	enable:Set this port as edged-port disable:Set this port as not edged-port

#### 【Example】

**Example 1:** Set the edged-port of link aggregation group1.

```
OLT(config-interface-aggregation))#spanning-tree edged-port 1 enable
```

```
OLT(config-interface-aggregation))#
```

### 18.2.3. Config Link-Aggregation Group STP Mcheck Property

<b>Command</b>	OLT(config-interface-aggregation))# <b>spanning-tree mcheck &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set the RSTP mcheck property of link-aggregation group. Port mcheck property is used to detect whether the port which is running under STP compatible mode can migrate to RSTP mode. By setting mcheck, you can check whether there is a bridge running STP protocol within the network segment which is connected with current Ethernet port. If yes, RSTP protocol will migrate the protocol running mode of this port to STP mode.
<b>&lt;group-id&gt;</b>	Group id, 1-8 is static aggregation group, 9-16 is dynamic aggregation group

#### 【Example】

**Example 1:** Set mcheck property of link-aggregation group 1.

```
OLT(config-interface-aggregation))#spanning-tree mcheck 1
```

```
OLT(config-interface-aggregation))#
```

### 18.2.4. Config Link-Aggregation Group STP Point-to-Point Function

<b>Command</b>	OLT(config-interface-aggregation))# <b>spanning-tree point-to-point &lt;group-id&gt; {auto/true/false}</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set point-to-point link of link-aggregation group spanning tree. If bridge works in RSTP mode, two ports which are connected by p2p link can migrate to forwarding status by sending synchronization message; it reduces the needless transfer delay time. If set this parameter as auto-mode, RSTP protocol can detect whether current Ethernet port has connected with point-to-point link automatically. The user can set manually whether current Ethernet port connects with the p2p link. The recommendation is auto-mode.
<b>&lt;group-id&gt;</b>	Group id, 1-8 is static aggregation group, 9-16 is dynamic aggregation group

<b>auto/true/false</b>	<p>auto:Set the point-to-point link as auto-mode</p> <p>true:Connect link-aggregation group to point-to-point link</p> <p>false:Disconnect link-aggregation group to point-to-point link</p>
------------------------	--

**【Example】**

**Example 1:** Set spanning tree point-to-point of link-aggregation as true.

```
OLT(config-interface-aggregation))#spanning-tree point-to-point 1 true
```

```
OLT(config-interface-aggregation))#
```

### 18.2.5. Config Link-Aggregation Group STP Priority

<b>Command</b>	OLT(config-interface-aggregation))# <b>spanning-tree priority &lt;group-id&gt; &lt;port-priority&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set the RSTP priority of link-aggregation group.By setting the priority of the link-aggregation group,You can specify that a particular link-aggregation group is contained within the spanning tree.Generally,the smaller of the setting value is,the higher of the link-aggregation group priority,this link-aggregation group is likely to include in spanning tree.If all the link-aggregation group of the bridge adapt to the same index number,the priority of the link-aggregation group depends on the index number of the link-aggregation group.
<b>&lt;group-id&gt;</b>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group
<b>&lt;port-priority&gt;</b>	Priority value,range for 0-240,step length for 16.The default value is 128.

**【Example】**

**Example 1:** Set spanning tree priority of link-aggregation group 1 as 160.

```
OLT(config-interface-aggregation))#spanning-tree priority 1 160
```

```
OLT(config-interface-aggregation))#
```

## 18.3. Link-Aggregation Group VLAN Configuration

### 18.3.1. Config Link-Aggregation Group VLAN Mode

<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan mode &lt;group-id&gt; {access/hybrid/trunk}</b>
----------------	--

<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set vlan mode of link-aggregation group. The default is access mode. In each vlan mode, the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	Group id, 1-8 is static aggregation group, 9-16 is dynamic aggregation group
<b>access/hybrid/trunk</b>	<p>Access: This kind of port only belongs to one vlan, generally it is used to connect to computer.</p> <p>Trunk: This kind of ports can allow multi vlan pass, can receive and transfer the message of different vlan. Usually, it is used to connect to the port between switches.</p> <p>Hybrid: This kind of port allows multiple vlan pass, can receive and transfer the message of different vlan. It can be used to connect the port between switch or connect to the PC.</p>

**【Example】**

**Example 1:** Set the vlan mode of link-aggregation group 1 as access.

```
OLT(config-interface-aggregation)#vlan mode 1 access
```

```
OLT(config-interface-aggregation)#
```

### 18.3.2. Config Link-Aggregation Group Native-vlan(access)

<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan native-vlan &lt;group-id&gt; &lt;vlan-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set Native VLAN of link-aggregation group, the default is 1. In each vlan mode, the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	Group id, 1-8 is static aggregation group, 9-16 is dynamic aggregation group
<b>&lt;vlan-id&gt;</b>	VLAN ID, range for 1-4094.

**【Example】**

**Example 1:** Set native vlan of link-aggregation group1 as 10.

```
OLT(config-interface-aggregation)#vlan native-vlan 1 10
```

```
OLT(config-interface-aggregation)#
```

### 18.3.3. Config Link-Aggregation Group Native-vlan Priority



<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan native-vlan-priority</b> <b>&lt;group-id&gt; &lt;priority&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set native vlan priority of link-aggregation group,the default is 0.
<b>&lt;group-id&gt;</b>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group
<b>&lt;priority&gt;</b>	Range of priority for 0-7

**【Example】**

**Example 1:** Set native vlan priority of link-aggregation group1 as 1.

```
OLT(config-interface-aggregation)#vlan native-vlan-priority 1 1
```

```
OLT(config-interface-aggregation)#
```

### 18.3.4. Config Link-Aggregation Group Access Mode VLAN

<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan access &lt;group-id&gt; &lt;vlan-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to set Access VLAN of link aggregation,the default is 1..In each vlan mode,the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;vlan-id&gt;</b>	Access VLAN ID,range for 1-4094

**【Example】**

**Example 1:** Set access vlan of link-aggregation group1 as 100.

```
OLT(config-interface-aggregation)#vlan access 1 100
```

```
OLT(config-interface-aggregation)#
```

### 18.3.5. Config Link-Aggregation Group Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan hybrid &lt;group-id&gt;</b> <b>{tagged untagged} &lt;vlan-list&gt;</b>
<b>View</b>	link-aggregation view

<b>Description</b>	This command is used to set hybrid VLAN of link aggregation,the default is 1..In each vlan mode,the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>{tagged   untagged}</b>	tagged:Add corresponding vlan tag for egress message untagged:Peel off corresponding vlan tag for egress message
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format is 1,11-27,100

**【 Example 】**

**Example 1:** Add untagged hybrid vlan 10-15 for link-aggregation group1.

```
OLT(config-interface-aggregation)#vlan hybrid 1 untagged 10-15
lag1:hybrid vlan added,failed:0,success:6
```

```
OLT(config-interface-aggregation)#
```

**Example 2:**Add tagged hybrid vlan 101 for link-aggregation group1.

```
OLT(config-interface-aggregation)#vlan hybrid 1 tagged 101
lag1:hybrid vlan added,failed:0,success:1
```

```
OLT(config-interface-aggregation)#
```

### 18.3.6. Delete Link-Aggregation Group Hybrid Mode VLAN

<b>Command</b>	OLT(config-interface-aggregation)# <b>no vlan hybrid &lt;group-id&gt; {tagged   untagged} &lt;vlan-list&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to delete hybrid VLAN of link aggregation,the default is 1..In each vlan mode,the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>{tagged   untagged}</b>	tagged:Add corresponding vlan tag for egress message untagged:Peel off corresponding vlan tag for egress message
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format is 1,11-27,100

**【 Example 】**

**Example 1:** Delete tagged hybrid vlan 10-15 for link-aggregation group1.

```
OLT(config-interface-ge)#no vlan hybrid 1 tagged 10-15
```

```
OLT(config-interface-ge)#
```

### 18.3.7. Config Link-Aggregation Group Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-aggregation)# <b>vlan trunk &lt;group-id&gt; &lt;vlan-list&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to delete trunk VLAN of link aggregation,the default is 1..In each vlan mode,the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format is 1,11-27,100

#### 【 Example 】

**Example 1:** Add trunk vlan 10-15 for link-aggregation group1.

```
OLT(config-interface-aggregation)#vlan trunk 1 10-15
lag1:trunk vlan allowed,failed:0,success:6

OLT(config-interface-aggregation)#
```

### 18.3.8. Delete Link-Aggregation Group Trunk Mode VLAN

<b>Command</b>	OLT(config-interface-aggregation)# <b>no vlan trunk &lt;group-id&gt; &lt;vlan-list&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to delete trunk VLAN of link aggregation,the default is 1..In each vlan mode,the message processing way of the port is showed in <a href="#">Appendix1</a>
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>
<b>&lt;vlan-list&gt;</b>	VLAN ID,range for 1-4094.format is 1,11-27,100

#### 【 Example 】

**Example 1:** Delete trunk vlan 10 for link-aggregation group1.

```
OLT(config-interface-aggregation)#no vlan trunk 1 10

OLT(config-interface-aggregation)#
```

## 18.4. Show Link-Aggregation Group Information

### 18.4.1. Show Link-Aggregation Group VLAN Information

<b>Command</b>	OLT(config-interface-aggregation)# <b>show port vlan &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show vlan info of link-aggregation group
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Show vlan info of link-aggregation group1

```

OLT(config-interface-aggregation)#show port vlan 1
-----
Port:lag1 Mode:Access Native-Vlan:1 Priority:0
-----
Tagged-Vlan:
-
-----
Untagged-Vlan:
1
-----

OLT(config-interface-aggregation)#

```

### 18.4.2. Show Link-Aggregation Group STP Information

<b>Command</b>	OLT(config-interface-aggregation)# <b>show port spanning-tree &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show spanning tree info of link-aggregation group
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example1:**Show spanning tree info of link-aggregation group 1.

```

OLT(config-interface-aggregation)#show port spanning-tree 1
-----lag1 RSTP STATUS:-----
Port STP Mode:RSTP
Port Priority:128
Port Path Cost:20000
Port Edge Admin:NON-Edge
Port Edge Status:NEdge

```

```
Port Link Type Admin:Auto
Port Link Type Status:P2P
Port Role:Unknown
Port State:Down
-----
OLT(config-interface-aggregation)#
```

### 18.4.3. Show Link-Aggregation Group Port Status

<b>Command</b>	OLT(config-interface-aggregation)# <b>show port state &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show port state of link-aggregation group
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Show port state of link-aggregation group1.

```
OLT(config-interface-aggregation)#show port state 1
-----
Port name:test
Current port state:enable
Current link state:DOWN
The maximum transmit unit:1500
Link speed:autonegotiation(1000 Mbps)
Link duplex:autonegotiation(FULL)
Flow-control:supported
-----
Native-vlan:1 Link-type:Access Priority:0

Untagged VLAN ID:
1
-----
OLT(config-interface-aggregation)#
```

### 18.4.4. Show Link-Aggregation Group STP Information Statistics

#### Information

<b>Command</b>	OLT(config-interface-aggregation)# <b>show statistics port &lt;group-id&gt;</b>
----------------	---

<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show statistic info of link-aggregation group
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Show statistic info of link-aggregation group1.

```

OLT(config-interface-aggregation)#show statistics port 1
member ge0/0/1 statistics:
-----
Direction Total Uncast Bcast Mcast Err
(bytes)(pkts)(pkts)(pkts)(pkts)
-----
RX 0 0 0 0 0
TX 0 0 0 0 0
-----
link-aggregation group 1 statistics:
-----
Direction Total Uncast Bcast Mcast Err
(bytes)(pkts)(pkts)(pkts)(pkts)
-----
RX 0 0 0 0 0
TX 0 0 0 0 0
-----
OLT(config-interface-aggregation)#

```

### 18.4.5. Show Link-Aggregation Group Config Information

<b>Command</b>	OLT(config-interface-aggregation)# <b>show link-aggregation group &lt;group-id&gt;</b>
<b>View</b>	link-aggregation view
<b>Description</b>	This command is used to show link-aggregation group matching state
<b>&lt;group-id&gt;</b>	<b>Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group</b>

**【Example】**

**Example 1:** Show matching state of link aggregation group1.

```

OLT(config-interface-aggregation)#show link-aggregation group 1

Lag Lag Select Unselect Load Master
ID Type Ports Ports Balance Port

```

```
1 Manual-ge0/0/1,dest-ip-
OLT(config-interface-aggregation)#
```

## 19. OLT Routing Function

### 19.1. Add or Delete Static Route

<b>Command</b>	OLT(config)# <b>&lt;no&gt;</b> ip route-static <b>&lt;ip-addr&gt;</b> <b>&lt;IP address mask&gt;</b> <b>&lt;Gateway address&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to add or delete static route of olt,it can set a strip of static route only.
<b>&lt;no&gt;</b>	Delete the command
<b>&lt;ip-addr&gt;</b>	IP address.IP address is divided into 5 types,user can select a suitable ip subnet according to the use case,the ip address with 32bits 0 or 32bits 1 has special function,so it can not use as general ip address,format for X.X.X.X
<b>&lt;IP address mask&gt;</b>	Subnet mask,format for X.X.X.X
<b>&lt;Gateway address&gt;</b>	Gateway address,format for X.X.X.X

#### 【Example】

**Example 1:** Set a strip of static route of olt,gateway is 192.168.2.253.

```
OLT(config)#ip route-static 0.0.0.0 0.0.0.0 192.168.5.253

Successfully add static routing entries!
OLT(config)#
```

**Example 2:**Delete a static route.

```
OLT(config)#no ip route-static 192.168.3.0 255.255.255.0 192.168.5.1

Successfully Del static routing entries!

OLT(config)#
```

### 19.2. Show IP Route Information

<b>Command</b>	OLT(config)# <b>show ip route</b>
----------------	-----------------------------------

<b>View</b>	Config view
<b>Description</b>	This command is used to show ip route info

### 【Example】

#### Example 1: Show ip route info

```
OLT(config)#show ip route
Flags:U-use,M-Mutipath,E-ECMP
Destination/Mask Proto Pre Cost NextHop Interface flag
192.168.1.0/24 Direct 1 0*vlanIf2
0.0.0.0/0 Static 2 2 192.168.5.253 vlanIf0 U
192.168.3.0/24 Static 2 2 192.168.5.1 vlanIf0 U

OLT(config)#
```

## 19.3. Show IP Routing-table Information

<b>Command</b>	OLT(config)# <a href="#">show ip routing-table all</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to show ip routing-table info

### 【Example】

#### Example 1: Show ip routing-table info

```
OLT(config)#show ip routing-table all
Flags:U-use,M-Mutipath,E-ECMP
Destination/Mask Proto Pre Cost NextHop Interface flag
192.168.1.0/24 Direct 1 0*vlanIf2 U
0.0.0.0/0 Static 2 2 192.168.5.253 vlanIf0 U
192.168.3.0/24 Static 2 2 192.168.5.1 vlanIf0 U

OLT(config)#
```

## 20. OLT Profile Configuration

### 20.1. OLT DBA Profile Configurations

#### 20.1.1. Create DBA Profile

<b>Command</b>	OLT(config)# <a href="#">dba-profile {profile-id &lt;profile-id&gt;   profile-name &lt;profile-name&gt;}</a>
----------------	--



<b>View</b>	Config view
<b>Description</b>	This command is used to add a dba-profile and enter dba-profile editing view.The deployment and control of uplink Bandwidth of ONU is realized through the Dynamic Bandwidth Allocation technology.dba-profile defines the uplink bandwidth of onu.Device adjusts the allocation of uplink bandwidth automatically according to the burst need of uplink services,which increases the uplink bandwidth service efficiency of pon system.When the default dba-profile can not satisfy the service needing and needs to create a new dba profile according to the real time service needing,using this command.“no”command is used to delete dba profile.
<b>&lt;profile-id&gt;</b>	dba profile id.System allocates a mini idle profile number if it is not specified by system.Proile 0 is the default profile.Onu with autoauth will match profile 0 automatically.
<b>&lt;profile-name&gt;</b>	DBA profile name.If it is not specified,system will adopt the default name“dba-profile_id”.

**【 Example 】**

**Example 1:** Create a new dba profile 10.

```
OLT(config)#dba-profile profile-id 10
```

```
OLT(config-dba-profile-10)#
```

**Example 2:** Delete dba-profile id 10.

```
OLT(config)# no dba-profile profile-id 10
```

```
OLT(config)#
```

## 20.1.2. Config DBA Profile Bandwith

<b>Command</b>	<pre>OLT(config-dba-profile-10)#type1 fix&lt;fixed bandwidth&gt; OLT(config-dba-profile-10)#type2 assure&lt;assure bandwidth&gt; OLT(config-dba-profile-10)#type3 assure&lt;assure bandwidth&gt; max &lt;max bandwidth&gt; OLT(config-dba-profile-10)#type4 max &lt;max bandwidth&gt; OLT(config-dba-profile-10)#type5 fix &lt;fixed bandwidth&gt; assure &lt;assure bandwidth&gt; max &lt;max bandwidth&gt;</pre>
<b>View</b>	DBA profile view
<b>Description</b>	This command is used to configure the type of DBA control bandwidth and the size of the bandwidth.
<b>&lt;type1&gt;</b>	Fix bandwidth.It is reserved to specified onu or the specific service of

	onu,this bandwidth can not be used by other onu even if the onu has not uplink service stream.It is mainly used in the service with hypersensitive qos,such as TDM,VoIP and etc.
<type2>	Assure bandwidth.It assures that onu can obtain a specified bandwidth when it is in need.Device's dba mechanism could allocate the surplus bandwidth to other onu's service when the real time service stream of onu can not reach the assure bandwidth.its realtime performance is worse than fixed bandwidth for the reason that it needs to control the allocation of bandwidth according to dba mechanism.
<type3>	Type3 includes assure bandwidth and max bandwidth.Type3 is a combination bandwidth type which assures the user has a certain bandwidth and it commits that the user has a certain bandwidth to preempt.But the sum of assure bandwidth can not exceed the max bandwidth.This kind of bandwidth is mainly used in voip and iptv service.
<type4>	Max bandwidth.The upper limit of bandwidth that the onu can obtain.It is mainly used in internet service.
<type5>	Type5 includes fixed bandwidth and assure bandwidth and max bandwidth..Type5 is a combination bandwidth type.The sum of fix bandwidth and assure bandwidth can not exceed the max bandwidth.
<fix>	Fix bandwidth.This part of bandwidth is allocated to the user firmly,other user can not preempt it even if it is in idle state.
<assure>	Assure bandwidth.If it is in idle other user can preempt it.
<max>	Max bandwidth.the max available bandwidth for the user. The sum of assure bandwidth in type3 can not exceed the max bandwidth. The sum of fix bandwidth and assure bandwidth in type5 can not exceed the max bandwidth.

### 【Example】

**Example 1:** Set the type of profile 10 as type5,fix bandwidth is 5Mbps,assure bandwidth is 10Mbps,max bandwidth is 30Mbps.

```
OLT(config-dba-profile-10)#type5 fix 5120 assure 10240 max 30720
```

```
OLT(config-dba-profile-10)#
```

### 20.1.3. Commit DBA Profile Config

<b>Command</b>	OLT(config-dba-profile-10)# <b>commit</b>
<b>View</b>	DBA pprofile view
<b>Description</b>	This command is used to commit the current dba profile setting.All the parameter will take effect only after the command is committed.

#### 【Example】

**Example 1:** Commit the current dba profile setting.

```
OLT(config-dba-profile-10)#commit
```

```
OLT(config-dba-profile-10)#
```

### 20.1.4. Show OLT DBA Profile Information

<b>Command</b>	OLT(config)# <b>show dba-profile {all   profile-id &lt;profile-id&gt;   profile-name &lt;profile-name&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show dba profile info.dba profile describes the flow parameter of the link,onu allocates the bandwidth automatically by binding dba profile which can increase the bandwidth utilization.
<b>&lt;profile-id&gt;</b>	Profile id to be show.
<b>&lt;profile-name&gt;</b>	Profile name to be show.

#### 【Example】

**Example 1:** Show all the dba profile.

```
OLT(config)#show dba-profile all
```

```
-----
Profile Profile Type Fix Assure Max Bind
ID Name(kbps)(kbps)(kbps)times
```

```
-----
0 dba-profile_0 4 0 0 1000000 1
1 dba-profile_1 4 0 0 1000000 0
2 dba-profile_2 4 0 0 1000000 0
10 dba-profile_10 5 5120 10240 30720 0
```

```
-----
Total:4
```

OLT(config)#

## 20.2. ont-lineprofile Configuraton

### 20.2.1. Create ont-lineprofile

<b>Command</b>	OLT(config)# <b>ont-lineprofile epon {profile-id &lt;profile-id&gt; profile-name &lt;profile-name&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create a new ont-lineprofile and enter the correspo hip between llid and dba profile.
<b>&lt;profile-id&gt;</b>	Profile id of ont-lineprofile.When it is unspecified,the system will match a minimum idle number.ont-lineprofile 0 is default profile.Autoauth's onu will match ont-lineprofile 0 automatically.
<b>&lt;profile-name&gt;</b>	Ont-lineprofile name.the default name is“ont-lineprofile_name”

#### 【Example】

**Example 1:** Create and enter ont-lineprofile 10.

```
OLT(config)#ont-lineprofile epon profile-id 10
```

```
OLT(config-epon-lineprofile-10)#
```

### 20.2.2. Bind DBA Profile in ont-lineprofile

<b>Command</b>	OLT(config-epon-lineprofile-10)# <b>llid &lt;llid-id&gt; dba-profile-id &lt;profile-id&gt;</b>
<b>View</b>	ont-lineprofile view
<b>Description</b>	This command is used to bind dba profile.
<b>&lt;profile-id&gt;</b>	dba profile id.When it is unspecified,the system will match a minimum idle number.dba profile 0 is default profile.Autoauth's onu will match dba profile 0 automatically.

#### 【Example】

**Example 1:** Bind dba profile 10 to ont-lineprofile 10.

```
OLT(config-epon-lineprofile-10)#llid 1 dba-profile-id 10
```

```
OLT(config-epon-lineprofile-10)#
```

### 20.2.3. Config FEC Function in ont-lineprofile

<b>Command</b>	OLT(config-epon-lineprofile-10)#fec {enable   disable}
<b>View</b>	ont-lineprofile view
<b>Description</b>	This command is used to enable or disable FEC.

**【Example】**

**Example 1:** Enable FEC in ont-lineprofile 10.

OLT(config-epon-lineprofile-10)#fec enable
OLT(config-epon-lineprofile-10)#

## 20.2.4. Config Data Encryption in ont-lineprofile

<b>Command</b>	OLT(config-epon-lineprofile-10)#llid <llid-id> encrypt {enable   disable}
<b>View</b>	ont-lineprofile view
<b>Description</b>	This command is used to enable or disable data encryption.

**【Example】**

**Example 1:** Enable data encryption in ont-lineprofile 10.

OLT(config-epon-lineprofile-10)#llid 1 encrypt enable
OLT(config-epon-lineprofile-10)#

## 20.2.5. Config ONU-Car in ont-lineprofile

<b>Command</b>	OLT(config-epon-lineprofile-10)#llid <llid-id> ont-car <profile-id>
<b>View</b>	ont-lineprofile view
<b>Description</b>	This command is used to bind ont-car and the it is used in conjunction with traffic-profile command in config view.
<b>&lt;profile-id&gt;</b>	ont-car id,ont-car is created by traffic-profile command in config view.

**【Example】**

**Example 1:** Bind ont-car 10 in ont-lineprfile 10.

OLT(config-epon-lineprofile-10)#llid 1 ont-car 10
OLT(config-epon-lineprofile-10)#

## 20.2.6. Commit ont-lineprofile Configuration

<b>Command</b>	OLT(config-epon-lineprofile-10)# <b>commit</b>
<b>View</b>	ont-lineprofile view
<b>Description</b>	This command is used to commit the current ont-lineprofile setting.All the parameter will take effect only after the command is committed.

### 【Example】

**Example 1:** Commit current ont-lineprofile setting.

```
OLT(config-epon-lineprofile-10)#commit
```

```
OLT(config-epon-lineprofile-10)#
```

## 20.2.7. Show OLT ont-lineprofile Information

<b>Command</b>	OLT(config)# <b>show ont-lineprofile {all   profile-id &lt;profile-id&gt;   profile-name &lt;profile-name&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show ont-lineprofile info.
<b>&lt;profile-id&gt;</b>	Ont-lineprofile id to be show.
<b>&lt;profile-name&gt;</b>	Ont-lineprofile name to be show.

### 【Example】

**Example 1:** Show ont-lineprofile 10 info.

```
OLT(config)#show ont-lineprofile epon profile-id 10
```

```
-----  
Profile-ID:10
```

```
Profile-name:lineprofile_10
```

```
Binding times:0  
-----
```

```
FEC switch:Disable
```

```
Encrypt type:Off
```

```
DBA Profile-ID:0
```

```
Traffic profile ID:-
```

```
DBA-threshold:  
-----
```

```
Queue-set-index Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8  
-----
```

```

1-----
2-----
3-----
4-----
-----

OLT(config)#

```

## 20.3. ont-srvprofile Configuration

### 20.3.1. Create ont-srvprofile

<b>Command</b>	OLT(config)# <b>ont-srvprofile epon {profile-id &lt;profile-id&gt; profile-name &lt;profile-name&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create ont-srvprofile or enter the created ont-srvprofile editing view.The association attribute of ont service can be set in ont-srvprofile.It needs to bind epon ont-srvprofile for ont when it is added to olt,if the ont-srvprofile is not specified,the system will bind the default ont-srvprofile to ont automatically.
<b>&lt;profile-id&gt;</b>	ont-srvprofile id.When it is not specified,system will allocate a minimum idle profile number automatically.the autoauth onu will be matched the ont-srvprofile 0.
<b>&lt;profile-name&gt;</b>	Ont-srvprofile name.The default name is ont-srvprofile_id.

#### 【Example】

**Example 1:** Create ont-srvprofile 10 and enter its editing view.

```
OLT(config)#ont-srvprofile epon profile-id 10
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.2. Config ONU Capability in ont-srvprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>ont-port eth &lt;number&gt; catv &lt;number&gt; pots &lt;number&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set the ont-srvprofile capability set.it can set the number of each kind of port.The config-capability of ont port

	must be the same with ont real capability.
<number>	The number of ont's port. Eth:ethernet port Pots:voice port Catv:coaxial cable port

**【Example】**

**Example 1:** Set ont capability of ont-profile 10,ethernet port is adaptive and 1 pots port.

```
OLT(config-epon-srvprofile-10)#ont-port eth adaptive pots 1
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.3. Config ONU Port Native-vlan in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port native-vlan eth &lt;port-list&gt; &lt;vlan id&gt; priority &lt;value&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set ONU eth port native-vlan
<port-list>	Port list to be set
<vlan id>	Native-vlan id
<value>	vlan priority,range for 0-7,the default is 0.

**【Example】**

**Example 1:** Set the native-vlan of eth1 in ont-srvprofile 10 as 100 and its priority is 0.

```
OLT(config-epon-srvprofile-10)#port native-vlan eth 1 100 priority 0
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.4. Config ONU Port VLAN in ont-srvprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port vlan eth &lt;port-list&gt; &lt;vlan id&gt; &lt;priority value&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to add ont port to the specified vlan in ont-srvprofile.
<port-list>	Port list to be set.



<b>&lt;vlan id&gt;</b>	Vlan id
<b>&lt;value&gt;</b>	vlan priority,range for 0-7,the default is 0.

**【Example】**

**Example 1:** Add eth1 to vlan 100 in ont-srvprofile 10.

```
OLT(config-epon-srvprofile-10)#port vlan eth 1 100 1
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.5. Config ONU VLAN Mode in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port vlan eth &lt;port-list&gt; &lt;vlan mode&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set vlan mode of the ONU port.
<b>&lt;vlan mode&gt;</b>	The mode of vlan are as follows: Transparent,translation,vlan-pool

**【Example】**

**Example 1:** Set vlan mode of eth 1 as vlan-pool 1 in ont-srvprofile 10,the vlan of eth 1 will be allocated by vlan-pool 1.

```
OLT(config-epon-srvprofile-10)#port vlan eth 1 vlan-pool 1
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.6. Config ONU Port Multicast VLAN in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port multicast-vlan eth &lt;port-list&gt; &lt;vlan id&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set multicast vlan of ont's port
<b>&lt;vlan id&gt;</b>	Multicast valn id

**【Example】**

**Example 1:** Set multicast-vlan of eth1 as 100.

```
OLT(config-epon-srvprofile-10)#port multicast-vlan eth 1 100
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.7. Config ONU Port Downstream Rate limit in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port eth 1 ds-policing</b> { <b>unconcern</b>   <profile id>}
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set downstream rate limitation of ont port
<b>unconcern</b>	There is no rate limitation with downstream
<b>&lt;Profile ID&gt;</b>	traffic-profile id,it must be created in config view before it is called.

#### 【Example】

**Example 1:** Set eth1 downstream rate limitation,match eth1 to traffic-profile 20.

```
OLT(config-epon-srvprofile-10)#port eth 1 ds-policing 20
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.8. Config ONU Port Upstream Rate limit in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port eth 1 up-policing</b> { <b>unconcern</b>   <profile id>}
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set upstream rate limitation of ont port
<b>unconcern</b>	There is no rate limitation with downstream
<b>&lt;Profile ID&gt;</b>	traffic-profile id,it must be created in config view before it is called.

#### 【Example】

**Example 1:** Set eth1 upstream rate limitation,match eth1 to traffic-profile 20.

```
OLT(config-epon-srvprofile-10)#port eth 1 up-policing 20
```

```
OLT(config-epon-srvprofile-10)#
```

### 20.3.9. Config ONU Port MAC Count Limit in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port eth &lt;port-list&gt; max-mac-count {unlimited  &lt;max mac count&gt;}</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set max-mac-count of ont port.
<b>unlimited</b>	There is no rate limitation with mac address.
<b>&lt;max mac count&gt;</b>	The max mac address number,range for 1-64.

**【Example】**

**Example 1:** Set max-mac-count of eth1 as 10 entries.

```
OLT(config-epon-srvprofile-10)#port eth 1 max-mac-count 10

OLT(config-epon-srvprofile-10)#
```

### 20.3.10. Config ONU Port IGMP Number in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port eth &lt;port-list&gt; group-num-max &lt;max group num&gt;</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set multicast group-num-max of ont port
<b>&lt;Max group num&gt;</b>	The max multicast group number,range for 0-255

**【Example】**

**Example 1:** Set the max multicast group number of eth1 as 20.

```
OLT(config-epon-srvprofile-10)#port eth 1 group-num-max 20

OLT(config-epon-srvprofile-10)#
```

### 20.3.11. Config ONU Port IGMP VLAN Process Mode in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>port eth &lt;port-list&gt; multicast-tagstrip {tag untag translation}</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set vlan processing mode of ont port's multicast stream.

tag untag translation	Tag:Add VLAN tag Untag:Peel off VLAN tag Translation:translates multicast vlan to another vlan.
-----------------------	---

**【Example】**

**Example 1:** Set multicast vlan processing mode of eth1 as tag mode in ont-srvprofile.

```
OLT(config-epon-srvprofile-10)#port eth 1 multicast-tagstrip tag

OLT(config-epon-srvprofile-10)#
```

### 20.3.12. Config ONU IGMP Fast-leave Function in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>multicast fast-leave {enable disable}</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set ONU multicast fast-leave
<b>{enable disable}</b>	Enable:enable multicast fast-leave Disable:disable multicast fast-leave

**【Example】**

**Example 1:** Enable multicast fast-leave

```
OLT(config-epon-srvprofile-10)#multicast fast-leave enable

OLT(config-epon-srvprofile-10)#
```

### 20.3.13. Enable or Disable ONU Loop Detect Function in ont-lineprofile

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>ring check {enable disable}</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to set ring check function
<b>{enable disable}</b>	Enable:enable ring check function Disable:disable ring check function

**【Example】**

**Example 1:** Enable ring check function in ont-srvprofile 10.

```
OLT(config-epon-srvprofile-10)#ring check enable
```

OLT(config-epon-srvprofile-10)#

### 20.3.14. Show ont-srvprofile Current Configuration

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>show ont-srvprofile current</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to show current configuration of ont-srvprofile

#### 【Example】

**Example 1:** Show current configuration of ont-srvprofile

```
OLT(config-epon-srvprofile-10)#show ont-srvprofile current
```

```
-----
Profile-ID:10
-----
```

```
Port-type Port-number
-----
```

```
ETH adaptive
```

```
POTS 0
```

```
CATV 0
-----
```

```
Multicast fast leave switch:Enable
```

```
Ring check switch:Enable
-----
```

```
Port Port Up-traffic Down-traffic MAC-learn Classification
type ID CAR-ID CAR-ID count
-----
```

```
ETH 1 20 20 10 None
```

```
ETH 2 Unconcern Unconcern Unlimited None
```

```
ETH 3 Unconcern Unconcern Unlimited None
```

```
ETH 4 Unconcern Unconcern Unlimited None
```

```
ETH 5 Unconcern Unconcern Unlimited None
```

```
ETH 6 Unconcern Unconcern Unlimited None
```

```
ETH 7 Unconcern Unconcern Unlimited None
```

```
ETH 8 Unconcern Unconcern Unlimited None
-----
```

```
Port Port Multicast Multicast Multicast Multicast
type ID S-VLAN C-VLAN tag-strip group-num
-----
```

```
ETH 1--Tag 20
```

```
ETH 2--Tag 64
```

```
ETH 3--Tag 64
```

ETH 4--Tag 64
ETH 5--Tag 64
ETH 6--Tag 64
ETH 7--Tag 64
ETH 8--Tag 64
-----
Port Port Service-type Index N-VLAN N-PRI S-VLAN S-PRI C-VLAN C-PRI type ID
-----
ETH 1 Transparent-----
ETH 2 Transparent-----
ETH 3 Transparent-----
ETH 4 Transparent-----
ETH 5 Transparent-----
ETH 6 Transparent-----

### 20.3.15. Commit ont-srvprofile Configuration

<b>Command</b>	OLT(config-epon-srvprofile-10)# <b>commit</b>
<b>View</b>	Ont-srvprofile view
<b>Description</b>	This command is used to commit the current ont-srvprofile setting.All the parameter will take effect only after the command is committed.

#### 【Example】

**Example 1:** Commit current ont-srvprofile setting

OLT(config-epon-srvprofile-10)#commit
OLT(config-epon-srvprofile-10)#

## 20.4. OLT traffic-profile Configuration

### 20.4.1. Create traffic-profile

<b>Command</b>	OLT(config)# <b>traffic-profile profile-id &lt;profile id&gt; profile-name &lt;profile name&gt; cir &lt;parameter&gt; pir &lt;parameter&gt; cbs &lt;parameter&gt; pbs &lt;parameter&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to create traffic-profile and set traffic-profile parameters to coordinate with rate limitation.

<Profile ID>	traffic-profile id,range for 1-256
<profile name>	traffic-profile name,range for 1-16
<b>cir</b>	Committed Information Rate,range for 64-10240000,unit is kbps
<b>pir</b>	Peek Information Rate,range for 64-10240000,unit is kbps
<b>cbs</b>	Committed Burst Size,range for 2000-10240000,unit is byte
<b>pbs</b>	Peek Burst Size,range for 2000-10240000,uni is byte

### 【 Example 】

**Example 1:** Create traffic profile 10,name it as test1,set cir as 128,pir as 256,cbs as 2000,pbs as 3000.

```
OLT(config)#traffic-profile profile-id 10 profile-name test1 cir 128 pir 256 cbs 2000 pbs 3000

OLT(config)#
```

## 20.4.2. Modify traffic-profile

<b>Command</b>	OLT(config)# <b>traffic-profile modify {profile id profile name} {cir pir cbs pbs}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to modify the traffic-profile.
<Profile ID>	Profile id,range for 1-256
<profile name>	Profile name,range for 1-16
<b>cir</b>	Committed Information Rate,range for 64-10240000,unit is kbps
<b>pir</b>	Peek Information Rate,range for 64-10240000,unit is kbps
<b>cbs</b>	Committed Burst Size,range for 2000-10240000,unit is byte
<b>pbs</b>	Peek Burst Size,range for 2000-10240000,uni is byte

### 【 Example 】

**Example 1:** Modify cir as 150 in traffic-profile 10.

```
OLT(config)#traffic-profile modify profile-id 10 cir 150
```

OLT(config)#

### 20.4.3. Show OLT traffic-profile Information

<b>Command</b>	OLT(config)#show traffic-profile all   profile id   profile name
<b>View</b>	Config view
<b>Description</b>	This command is used to show traffic-profile info
<Profile ID>	Profile id,range for 1-256
<Profile name>	Profile name,range for 1-16

#### 【Example】

**Example 1:** Show all of traffic-profile info.

```
OLT(config)#show traffic-profile all
-----
ID Profile-name CIR(kbps)PIR(kbps)CBS(bytes)PBS(bytes)Bind
-----
10 test1 150 256 2000 3000 0
20 test 222 222 2000 2000 2
-----
Total:2
OLT(config)#
```

## 20.5. OLT VLAN Pool Configuration

### 20.5.1. Create VLAN Pool

<b>Command</b>	OLT(config)# <b>vlan-pool add</b> <vlan pool id> <b>start-vid</b> <vlan id> <b>end-vid</b> <vlan-id>
<b>View</b>	Config view
<b>Description</b>	This command is used to create vlan-pool.
<VLAN pool ID>	Vlan-pool id,range for 1-128

#### 【Example】

**Example 1:** Create vlan-pool 1,its range is start-vid 100 to end-vid 200.

```
OLT(config)#vlan-pool add 1 start-vid 100 end-vid 200
```



```
OLT(config)#
```

## 20.5.2. Modify VLAN Pool

<b>Command</b>	OLT(config)# <b>vlan-pool modify &lt;vlan pool id&gt; start-vid &lt;vlan id&gt; end-vid &lt;vlan-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to modify the parameter of vlan-pool
<b>&lt;vlan pool id&gt;</b>	Vlan-pool id,range for 1-128

### 【Example】

**Example 1:** Modify vlan-pool 1,its range is start-vid 100 to end-vid 300.

```
OLT(config)#vlan-pool modify 1 start-vid 200 end-vid 300
OLT(config)#
```

## 20.5.3. Delete VLAN Pool

<b>Command</b>	OLT(config)# <b>no vlan-pool &lt;vlan pool id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete vlan-pool.
<b>&lt;vlan pool id&gt;</b>	Vlan-pool id,range for 1-128

### 【Example】

**Example 1:** Delete vlan-pool 1.

```
OLT(config)#no vlan-pool 1
OLT(config)#
```

## 20.5.4. Show OLT VLAN Pool Information

<b>Command</b>	OLT(config)# <b>show vlan-pool {all &lt;vlan pool id&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show configuration info of vlan-pool.
<b>&lt;vlan pool id&gt;</b>	Vlan-pool id,range for 1-128

### 【Example】

**Example 1:** Show configuration info of all the vlan-pool.

```
OLT(config)#show vlan-pool all
-----
VLAN-Pool Start-VID End-VID
-----
1 200 300
-----

OLT(config)#
```

## 21. ONU Management

### 21.1. ONU Authentication Management

#### 21.1.1. Enable or Disable ONU Autofind Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont autofind &lt;port-id&gt; {enable disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable ont autofind function in pon port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{enable disable}</b>	Enable Disable

### 【Example】

**Example 1:** Disable ont autofind function in pon 1.

```
OLT(config-interface-epon-0/0)#ont autofind 1 disable

OLT(config-interface-epon-0/0)#
```

#### 21.1.2. Show Autofind ONU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont autofind &lt;port-id&gt; {all mac llid}</b>
<b>View</b>	EPON interface view

<b>Description</b>	This command is used to show basic info of autofind ont.when adding ont,it can show mac address,autofind time and etc info of unauthentication ont.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{all mac llid}</b>	All:Show all the autofind ont in the pon port. Mac:Show the autofind ont according to the mac address in the pon port. Llid:Show the autofind ont according to the llid in the pon port.

### 【Example】

**Example 1:** Show all the autofind ont in pon 1.

<pre>OLT(config-interface-epon-0/0)#show ont autofind 1 all ----- Index MAC Autofind-Time ----- 1 E0:67:B3:AA:BB:0C 2000-01-01 00:01:37 2 00:01:62:45:66:05 2000-01-01 08:02:24 3 00:01:62:45:99:07 2000-01-01 08:02:25 ----- Total:3 Total:3 ----- ----- OLT(config-interface-epon-0/0)#</pre>
---

### 21.1.3. MAC Address Method Authenticated ONU And Bind Profile

<b>Command</b>	OLT(config-interface-epon-0/0)#ont add <port-id> <onu-id> mac-auth <mac-address> {ont-lineprofile-id<profile-id> ont-lineprofile-name<profile-name>} {ont-srvprofile-id <profile-id> ont-srvprofile-name<profile-name>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to authenticate onu by mac-auth and bind the ont-lineprofile and ont-srvprofile.olt will check whether the mac reported by ont is the same with the setting mac,if yes,ont will online normally.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

<mac-address>	Mac address of ont,format for xx:xx:xx:xx:xx:xx
<profile-id>	Profile id,0-512
<profile-name>	Profile name,it supports 1-16 strings.

**【Example】**

**Example 1:** Add an ont in pon1 and bind it to ont-lineprofile 5 and ont-srvprofile 5.

```
OLT(config-interface-epon-0/0)#ont add 1 9 mac-auth 11:11:11:11:11:11
ont-lineprofile-id 5 ont-srvprofile-id 5

OLT(config-interface-epon-0/0)#
```

### 21.1.4. Loid Method Authenticated ONU and Bind Profile

<b>Command</b>	OLT(config-interface-epon-0/0)#ont add <port-id> <onu-id> loid-auth <loid> { ont-lineprofile-id <profile-id>   ont-lineprofile-name } {<profile-name> ont-srvprofile-id <profile-id>  ont-srvprofile-name <profile-name> } { always   once-aging   once-no-aging}
<b>View</b>	epon view
<b>Description</b>	This command is used to authenticate onu by loid-auth and bind the ont-lineprofile and ont-srvprofile.olt will check whether the loid reported by ont is the same with the setting loid,if yes,ont will online normally.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<loid>	Loid of ont,it supports 1-24 strings
<profile-id>	Profile id,0-512
<profile-name>	Profile name,it supports 1-16 strings.
{always once-aging once-no-aging}	Always:ont can be authenticated at any time once-aging:ont only can be authenticated for once time within the allotted time,ont will be cleared once it is offline. once-no-aging:no limitation in authentication time for ont,but it will be cleared once it is offline.

**【Example】**

**Example 1:** Add an ont in pon1 and bind it to ont-lineprofile 5 and ont-srvprofile 5.

```
OLT(config-interface-epon-0/0)#ont add 1 10 loid-auth loid ont-lineprofile-id 5
```

```
ont-srvprofile-id 5 always

OLT(config-interface-epon-0/0)#
```

### 21.1.5. Loid+Password Method Authenticated ONU and Bind Profile

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont add &lt;port-id&gt; &lt;onu-id&gt; loid-auth &lt;loid&gt; password &lt;password&gt; { ont-lineprofile-id &lt;profile-id&gt;   ont-lineprofile-name &lt;profile-name&gt; } {ont-srvprofile-id &lt;profile-id&gt;  ont-srvprofile-name &lt;profile-name&gt; } { always   once-aging   once-no-aging}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to authenticate onu by loid-auth and password-auth and bind the ont-lineprofile and ont-srvprofile.olt will check whether the loid and password reported by ont is the same with the setting loid and password,if yes,ont will online normally.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;loid&gt;</b>	Loid of ont,it supports 1-24 strings
<b>&lt;password&gt;</b>	password of ont,it supports 1-12 strings
<b>&lt;profile-id&gt;</b>	Profile id,0-512
<b>&lt;profile-name&gt;</b>	Profile name,it supports 1-16 strings.
<b>always   once-aging   once-no-aging</b>	Always:ont can be authenticated at any time once-aging:ont only can be authenticated for once time within the allotted time,ont will be cleared once it is offline. once-no-aging:no limitation in authentication time for ont,but it will be cleared once it is offline.

#### 【Example】

**Example 1:** Add an ont in pon1 and bind it to ont-lineprofile 5 and ont-srvprofile 5.

```
OLT(config-interface-epon-0/0)#ont add 1 10 loid-auth test password-auth test
ont-lineprofile-id 5 ont-srvprofile-id 5 always

OLT(config-interface-epon-0/0)#
```

### 21.1.6. Config ONU Authmode

<b>Command</b>	OLT(config-interface-epon-0/0)#ont authmode <port-id><auth-mode>
<b>View</b>	epon view
<b>Description</b>	This command is used to set ont authmode in pon port.
<port-id>	Pon port id,range for 1-16
<auth-mode>	Adaptive:Adaptive policy authenticated Auto:All ont will be authenticated by mac address unconditional Loid:authenticate ont by loid Loid-password:authenticate ont by loid+password Mac:authenticate ont by mac address Mac-or-loid:authenticate ont by mac address or loid Mac-or-loid-password:authenticate ont by mac address or loid+password

#### 【Example】

**Example 1:** Set the authmode of pon 1 as mac.

```
OLT(config-interface-epon-0/0)#ont authmode 1 mac
```

```
OLT(config-interface-epon-0/0)#
```

### 21.1.7. Change ONU Bind Profile

<b>Command</b>	OLT(config-interface-epon-0/0)#ont modify <port-id> <onu-id> <onu-list> {ont-lineprofile-id <profile-id>  ont-lineprofile-name <profile-name>  ont-srvprofile-id <profile-id>  ont-srvprofile-name <profile-name>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to modify the bound ont-lineprofile and ont-srvprofile of ont.
<port-id>	Pon port id,range for 1-16
<onu-id> <onu-list>	Onu-id:ont id to be modified,range for 1-64 Onu-list:ont list to be modified,format for 1,3-5,8
<profile-id>	profile id,range for 0-512
<profile-name>	Profile name,it supports 1-16 strings.

#### 【Example】

**Example 1:** Modify the ont-lineprofile of ont 1 in pon 1 as ont-lineprofile 5

```
OLT(config-interface-epon-0/0)#ont modify 1 1 ont-lineprofile-id 5
```

```
OLT(config-interface-epon-0/0)#
```

**Example 2:** Modify the ont-lineprofile and ont-srvprofile of ont 1 in pon 1 as ont-lineprofile 5 and ont-srvprofile 5.

```
OLT(config-interface-epon-0/0)#ont modify 1 1 ont-lineprofile-id 5 ont-srvprofile-id 5

OLT(config-interface-epon-0/0)#
```

### 21.1.8. Config Pre-binding ONU Profile

<b>Command</b>	OLT(config-interface-epon-0/0) <b>ont predetermine</b> <port-id> {<onu-id > <onu-list>} { ont-lineprofile-id <profile-id>  ont-lineprofile-name <profile-id>} {ont-srvprofile-id <profile-name>  ont-srvprofile-name <profile-name>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to predetermine the ont-lineprofile and ont-srvprofile for unregister ont in pon port,these profile will be applied to ont once it is online.
<port-id>	Pon port id,range for 1-16
<onu-id> <onu-list>	Onu-id:ont id,range for 1-64 Onu-list:ont list,format for 1,3-5,8
<profile-id>	profile id,range for 0-512
<profile-name>	Profile name,it supports 1-16 strings.

#### 【Example】

**Example 1:** Predetermine the ont-lineprofile 5 and ont-srvprofile 5 for ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont predetermine 1 1 ont-lineprofile-id 5
ont-srvprofile-id 5

OLT(config-interface-epon-0/0)#
```

### 21.1.9. Confirm Autofind ONU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont confirm</b> <port-id> {all  mac-auth <mac-address>   loid-auth <loid>} {password-auth <password>} {ont-lineprofile-id <profile-id>   ont-lineprofile-name <profile-name> ont-srvprofile-id <profile-id>   ont-srvprofile-name <profile-name>}
----------------	--

<b>View</b>	epon view
<b>Description</b>	This command is used to confirm the discovered ont.If ont autofind is enable,olt will obtain the register info of ont after accessing the ont to olt,at this time,ont is in'autofind'state.ont will turn into working state and can be configured after confirming.Batch of ont registration is supported.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;mac-address&gt;</b>	Mac address of ont,format is xx:xx:xx:xx:xx:xx
<b>&lt;loid&gt;</b>	Loid of ont,it supports 1-24 strings
<b>&lt;password&gt;</b>	password of ont,it supports 1-12 strings
<b>&lt;profile-id&gt;</b>	Profile id,0-512
<b>&lt;profile-name&gt;</b>	Profile name,it supports 1-16 strings.

### 【Example】

**Example 1:** Authenticate all the autofind ont in pon1 according to mac address.

```
OLT(config-interface-epon-0/0)#ont confirm 1 all mac-auth
Number of ONUs that can be added:0,success:0

OLT(config-interface-epon-0/0)#
```

**Example 2:**Authenticate all the autofind ont in pon1 according to loid "test" .

```
OLT(config-interface-epon-0/0)#ont confirm 1 loid-auth test
Add port 1 ONU 1 successfully.

OLT(config-interface-epon-0/0)#
```

## 21.1.10. Delete Authentication ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont delete <port-id> {<onu-id>  all}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to delete the ont in pon port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>all</b>	Delete all ont in pon port



### 【Example】

**Example 1:** Delete all ont in pon1.

```
OLT(config-interface-epon-0/0)#ont delete 1 all
```

This command will delete all the ONUs in port.Are you sure to execute this command?(y/n):y 2000-01-04 11:32:30 ONU 0/0 1 1 is offline

Number of ONUs that can be delete:1,success:1

```
OLT(config-interface-epon-0/0)#2000-01-04 11:32:30 PON 0/0/1 ONU 1 onu is offline
```

## 21.1.11. Cancel Autofind ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont cancel <port-id> {<mac-address> all}
<b>View</b>	epon view
<b>Description</b>	This command is used to cancel the autofind ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;mac-address&gt;</b>	Mac saddress of ont,format is xx:xx:xx:xx:xx:xx
<b>all</b>	All the autofind ont in corresponding pon port

### 【Example】

**Example 1:** Cancel the autofind ont in pon1,its mac address is E0:67:B3:12:11:8A.

```
OLT(config-interface-epon-0/0)#ont cancel 1 E0:67:B3:12:11:8A
```

```
OLT(config-interface-epon-0/0)#
```

## 21.1.12. Re-register ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont re-register <port-id> {<onu-id> all}
<b>View</b>	epon view
<b>Description</b>	This command is used to re-register the specified ont or all the ont in corresponding pon port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{&lt;onu-id&gt; all}</b>	onu-id:ont id to be re-register,range for 1-64 All:re-register all the ont in pon port

**【 Example 】**

**Example 1:** Re-register onu1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont re-register 1 1
2000-01-08 02:02:49 PON 0/0/1 ONU 1 onu is offline
2000-01-08 02:02:49 PON 0/0/1 pon port link down
2000-01-08 02:02:56 PON 0/0/1 ONU 1 onu is online
2000-01-08 02:02:56 PON 0/0/1 pon port link up

OLT(config-interface-epon-0/0)#
```

### 21.1.13. Modify ONU Authmode

<b>Command</b>	OLT(config-interface-epon-0/0)#ont modify <port-id> <onu-id> auth-type {mac-auth <mac-address>   loid-auth <loid>} {password-auth <password>}
<b>View</b>	Config view
<b>Description</b>	This command is used to modify ont authmode
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;mac-address&gt;</b>	Mac address of ont,format is xx:xx:xx:xx:xx:xx
<b>&lt;loid&gt;</b>	Loid of ont,it supports 1-24 strings
<b>&lt;password&gt;</b>	password of ont,it supports 1-12 strings

**【 Example 】**

**Example 1:** Modify the auth-type of onu 1 as mac-auth in pon1,its mac is 11:11:11:11:11:11.

```
OLT(config-interface-epon-0/0)#ont modify 1 1 auth-type mac-auth 11:11:11:11:11:11

OLT(config-interface-epon-0/0)#
```

**Example 2:**Modify the auth-type of onu 1 as loid-auth in pon1,its loid is test.

```
OLT(config-interface-epon-0/0)#ont modify 1 1 auth-type loid-auth test

OLT(config-interface-epon-0/0)#
```

**Example 3:**Modify the auth-type of onu 1 as loid-password in pon1,its loid is test,password is test1.

```
OLT(config-interface-epon-0/0)#ont modify 1 1 auth-type loid-auth test password-auth test1
```

```
OLT(config-interface-epon-0/0)#
```

### 21.1.14. Delete Blacklist Auth ONU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont blacklist del &lt;port-id&gt; {&lt;mac-address&gt; all}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to delete the blacklist ont in specified pon port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;mac-address&gt;</b>	Mac address of blacklist ont,format for xx:xx:xx:xx:xx:xx
<b>all</b>	All of the blacklist ont in the pon port

#### 【 Example 】

**Example 1:** Delete all the blacklist ont in pon 1.

```
OLT(config-interface-epon-0/0)#ont black-list del 1 all
Number of ONUs that can be delete:1,success:1

OLT(config-interface-epon-0/0)#
```

### 21.1.15. Show ONU BlackList Authenticated Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont black-list {&lt;port-id&gt; all}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show black-list ont in specified pon port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16

#### 【 Example 】

**Example 1:** Show all the black-list ont in pon 1.

```
OLT(config-interface-epon-0/0)#show ONU black-list 1 all
-----
Index MAC Try-Count Last-Auth-Time
-----
1 12:12:12:12:12:12 0 1900-01-00 00:00:00
-----
Total:1
OLT(config-interface-epon)#
```

## 21.1.16. Show ONU Registered Status and Information

<b>Command</b>	OLT(config-interface-epon-0/0)#show ont info <port-id> {<onu-id> all}
<b>View</b>	EPON interface view
<b>Description</b>	<p>This command is used to show ont state info(including current state,relative configuration of ont)</p> <p>Port:The pon port id that the ont had registered in</p> <p>ONU ID:the setting ont id</p> <p>MAC:Mac address of ont</p> <p>Control flag:</p> <p>Active:Ont is in active state.Only if the ont is in active state the ont can register in olt.</p> <p>Deactive:Ont is in deactive state.When ont is in deactive state,we can active the ont by“ont active”command.</p> <p>Run state:The running sigh of ont,it includes“online”,“offline”,“online”state indicates that ont has registered in olt normally.</p> <p>Config state:This state can describe whether the config state is in normal.it includes 3 kinds of state:</p> <p>Initial:Ont is in configuration issuing or recovering state</p> <p>Failed:Failed to issue or recover the configuration</p> <p>Success:Success to issue or recover the configuration</p>
<port-id>	Pon port id,range for 1-16
{<onu-id> all}	onu-id:ont id to be show,range for 1-64。 All:Show all of the ont state in current pon port

### 【Example】

**Example1:**Show all of the ont state in pon 1.

```

OLT(config-interface-epon-0/0)#show ont info 1 all
-----
F/S P ONU MAC Control Run Config Match Desc
ID flag state state state
-----
0/0 1 1 E0:67:B3:00:00:09 active online success match
0/0 1 2 00:13:25:00:00:01 active offline initial initial
0/0 1 3 E0:67:B3:1B:8F:35 active offline initial initial
0/0 1 4 00:13:25:01:02:01 active offline initial initial
-----
Total:4,online 1

```

```
OLT(config-interface-epon-0/0)#
```

## 21.2. Policy-auth ONU and Batch Delivery Configuration Manage

### 21.2.1. Enable or Disable Global Policy-auth ONU

<b>Command</b>	OLT(config)# <b>ont policy-auth {enable   disable}</b>
<b>View</b>	config view
<b>Description</b>	This command is used to enable or disable the global ONU policy authentication function. The default policy adopted by the OLT is that the ONU defaults to match the line profile 0 and the service profile. The OLT supports the following methods to match different ONUs, and then match different configurations for different ONUs.
<b>{enable   disable } }</b>	Enable:Enable policy-auth of ont Disable:Disable policy-auth of ont

#### 【Example】

**Example 1:** Enable global ONU policy authentication.

```
OLT(config)# ont policy-auth enable
```

```
OLT(config)#
```

### 21.2.2. Enable or Disable Policy-auth ONU Under PON Port

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont policy-auth &lt;port-id&gt; {enable   disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable policy-auth of ont under OLT PON port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{enable   disable } }</b>	Enable:Enable policy-auth of ont Disable:Disable policy-auth of ont

#### 【Example】

**Example 1:** Enable policy-auth of ont in pon1

```
OLT(config-interface-epon-0/0)#ont policy-auth 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 21.2.3. Config Policy-auth ONU Mode

<b>Command</b>	OLT(config)# <b>ont policy-auth mode</b> {all  model-auth  model-swver-auth  model-vendor-hwver-auth  vendor-auth} to {loid-auth  loid-password-auth  mac-auth} {always  once-no-aging}
<b>View</b>	Config view
<b>Description</b>	This command is used to configure the ONU policy authentication mode. Mainly configures what the ONU is based on to match the policy. The ONU is based on what is registered, and the number of times the policy action is executed.
<all  model-auth  model-swver-auth  model-vendor-hwver-auth  vendor-auth >	<b>All:</b> The object that executes the policy is all online ONUs. <b>Model-auth :</b> Match different strategies model-swver-auth according to different model ids: match different strategies according to different model id and software version <b>Model-vendor-hwver-auth:</b> Match different strategies according to different model id, software version and hardware version <b>Vendor-auth :</b> match different strategies based on different vendor ids
<loid-auth  loid-password-auth  mac-auth> <always  once-no-aging>	Mac-auth: onu is registered based on mac address Loid-auth: onu is registered based on loid id Loid-password-auth: onu is registered based on loid id and password Always: the action of executing the policy is always executed Once-no-aging: the action of executing the policy is executed only once

#### 【Example】

**Example 1 :** Configure the ONU to match the policy by model id, register based on mac address, and always execute the policy.

```
OLT(config)# ont policy-auth mode model-auth to mac-auth always

OLT(config)#
```

### 21.2.4. Config Policy-auth ONU Mode and Batch Delivery

#### Configuration Match Mode

<b>Command</b>	OLT(config)# <b>ont policy-auth</b> {all  model-auth  model-swver-auth  model-vendor-hwver-auth  vendor-auth }
----------------	--

	<code>&lt;parameter&gt; { ont-lineprofile-id &lt;profile-id&gt;  ont-lineprofile-name &lt;profile-id&gt;} {ont-srvprofile-id &lt;profile-name&gt;  ont-srvprofile-name &lt;profile-name&gt;}</code>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure the matching policy of the ONU, configure specific parameters to match the policy, and configure line profiles and service templates that match the ONUs of the policy.
<code>&lt;all  model-auth  model-swver-auth  model-vendor-hwver-auth vendor-auth &gt;</code>	<p><b>All:</b> The object that executes the policy is all online ONUs.</p> <p><b>Model-auth :</b> Match different strategies model-swver-auth according to different model ids: match different strategies according to different model id and software version</p> <p><b>Model-vendor-hwver-auth:</b> Match different strategies according to different model id, software version and hardware version</p> <p><b>Vendor-auth :</b> match different strategies based on different vendor ids</p>
<code>&lt;ont-lineprofile-id ont-lineprofile-name&gt;</code>	Configure the line profile id or name matching the online ONU that matches the policy.
<code>&lt;ont-srvprofile-id ont-srvprofile-name&gt;</code>	Configure the service template id or name matching the online ONU that matches the policy.

### 【Example】

**Example 1 :** Configure the ONU on the line that has the model id of 0x31303053 to automatically match the line profile 10 and the service profile 10.

```
OLT(config)# ont policy-auth policy model-auth 0x31303053 ont-lineprofile-id 10
ont-srvprofile-id 10

OLT(config)#
```

**Example 2:** The ONU of the PON1 with the model id of 0x31303053 is configured based on the mac address authentication. The line-up always matches the line profile 10 and the service profile 10 automatically. All the configurations required are as follows:

```
OLT(config)# ont policy-auth enable

OLT(config)# ont policy-auth mode model-auth to mac-auth always

OLT(config)# ont policy-auth policy model-auth 0x31303053 ont-lineprofile-id 10
ont-srvprofile-id 10

OLT(config)# interface epon 0/0
```

```
OLT(config-interface-epon-0/0)# ont policy-auth 1 enable

OLT(config-interface-epon-0/0)# ont authmode 1 adaptive

OLT(config-interface-epon-0/0)# ont autofind 1 enable
```

### 21.2.5. Show Policy-auth ONT Configuration Information

<b>Command</b>	OLT(config)# <b>show ont policy-auth</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the configuration of the current ONU policy authentication of the OLT.

#### 【Example】

**Example 1:** Check the configuration of the current ONU policy authentication of the OLT.

```
OLT(config)# show ont policy-auth
-----
Policy-auth Switch : enable
Policy-auth Mode   : model-auth
Target auth Mode   : mac-auth
Time Mode          : always
-----

OLT(config)#
```

## 21.3. ONU Basic Function Management

### 21.3.1. Active ONU

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont activate &lt;port-id&gt; {&lt;onu-id&gt; all}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to active the ont with disactive state.Ont will work in normal only when it is in active state.ont is in active state by default.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt; all</b>	Ont id,range for 1-64 All:all of the ont



**【Example】**

**Example 1:** Active the ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont activate 1 1

OLT(config-interface-epon-0/0)#
```

### 21.3.2. Deactive ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont deactivate <port-id> {<onu-id> all}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to disactive the ont with active state.Ont will work in normal only when it is in active state.ont is in active state by default.
<port-id>	Pon port id,range for 1-16
{<onu-id> all}	Ont id,range for 1-64 All:all of the ont

**【Example】**

**Example 1:** Disactive the ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont deactivate 1 1

OLT(config-interface-epon-0/0)#
```

### 21.3.3. Reboot ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont reboot <port-id> {<onu-id> all}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to reboot the specified ont or all of the ont.
<port-id>	Pon port id,range for 1-16
{<onu-id> all}	Ont id,range for 1-64 All:all of the ont

**【Example】**

**Example 1:** Reboot the ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont reboot 1 1
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.4. ONU Remote Manage IP Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont ipconfig <port-id> <onu-id > ip-address <ip-address> mask <mask> gateway <gateway-ip> manage-vlan <vlan-id> priority <priority>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the management ip,netmask,gateway,manage vlan and priority and etc.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<ip-address>	Manage ip,format for xx:xx:xx:xx:xx:xx
<mask>	Netmask,format for xx:xx:xx:xx:xx:xx
<gateway-ip>	Gateway ip,format for xx:xx:xx:xx:xx:xx
<vlan-id>	vlan id.range for 1-4094
<priority>	Priority,range for 0-7

#### 【Example】

**Example 1 :** Set the parameters of ont 1 in pon 1,set its management ip as 192.168.101.1,netmask as 255.255.255.0,gateway ip is 192.168.101.254,management vlan as 101,priority as 0.

```
OLT(config-interface-epon-0/0)#ont ipconfig 1 1 ip-address 192.168.101.1 mask  
255.255.255.0 gateway 192.168.101.254 manage-vlan 101 priority 0
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.5. ONU Upstream Rate Limit Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont sla <port-id> <onu-id > upstream {assure <assured-bandwidth>   fix <fixed-bandwidth>   max <max-bandwidth>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set upstream rate limitation of ont
<port-id>	Pon port id,range for 1-16

<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;assured-band width&gt;</b>	Assure-bandwidth,range for 1-1000000,unit is kpbs
<b>&lt;fixed-bandwidth&gt;</b>	Fixed-bandwidth,range for 1-1000000,unit is kpbs
<b>&lt;max-bandwidth&gt;</b>	Max-bandwidth,range for 512-1000000,unit is kpbs

#### 【Example】

**Example 1:** Set the fixed-bandwidth of ont 1 in pon1 as 100000kbps

```
OLT(config-interface-epon-0/0)#ont sla 1 1 upstream fix 100000
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.6. ONU Downstream Rate Limit Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont sla <port-id> <onu-id > <b>downstream max &lt;max-bandwidth&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set downstream rate limitation of ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;max-bandwidth&gt;</b>	Max-bandwidth,range for 64-1000000,unit is kpbs

#### 【Example】

**Example 1:** Set the max-bandwidth of ont 1 in pon1 as 100000kbps

```
OLT(config-interface-epon-0/0)#ont sla 1 1 downstream max 100000
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.7. ONU MAC Aging Time Config

<b>Command</b>	OLT(config-interface-epon-0/0)#nt mac-aging <port-id> <onu-id> <b>aging-time &lt;aging-time&gt;</b>
<b>View</b>	EPON interface view

<b>Description</b>	This command is used to set mac-aging time of specified ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;ont-id&gt;</b>	Ont id,range fro 1-64
<b>&lt;aging-time&gt;</b>	Mac-aging time,range for 0-36000."0"means without aging.

#### 【Example】

**Example 1:** Set the mac-aging time of onu 4 in pon 1 as 12s.

```
OLT(config-interface-epon-0/0)#ont mac-aging 1 4 aging-time 12
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.8. Add ONU Description Information

<b>Command</b>	OLT(config-interface-epon-0/0)#ont description <port-id> <onu-id> <description>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to add description for ontt
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;description&gt;</b>	Description info of ont,it supports 1-64 strings.

#### 【Example】

**Example 1:** Add description "test" for ont 1 in pon1.

```
OLT(config-interface-epon-0/0)#ont description 1 1 test
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.9. ONU Encryption Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont encrypt <port-id> <onu-id> {enable disable}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set encryption function of ont.the message between specified pon port and specified ont will be encrypted after executing this command.

<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>{enable disable }</b>	Enable:enable the encryption function Disable:disable the encryption function

#### 【Example】

**Example 1:** Enable the encryption function of onu 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont encrypt 1 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.10. Enable or Disable ONU FEC Function

<b>Command</b>	OLT(config-interface-epon-0/0)#ont fec <b>&lt;port-id&gt;</b> <b>&lt;onu-id&gt;</b> <b>{enable disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable FEC function of specified ont in pon port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>{enable disable }</b>	Enable:enable FEC function Disable:disable FEC function

#### 【Example】

**Example 1:** enable FEC function of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont fec 1 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.11. ONU Service-sla Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont service-sla <b>&lt;port-id&gt;</b> <b>{all   &lt;onu-id&gt;}</b> <b>{profile-id &lt;profile-id&gt;   profile-name &lt;profile-name&gt;}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to bind ont-slaprofile to ont.Firstly,it needs to create a n ont-slaprofile in config view.

<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{all &lt;onu-id&gt;}</b>	Ont id,range for 1-64 All:all of the ont
<b>&lt;profile-id&gt;</b>	Profile id,range for 0-256
<b>&lt;profile-name&gt;</b>	profile name,it supports 1-16 strings

### 【Example】

**Example 1:** Bind ont-slaprofile 5 to ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont service-sla 1 1 profile-id 5

OLT(config-interface-epon-0/0)#
```

## 21.3.12. ONU SNMP Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont snmp-config <port-id> <onu-id> v2c <readgroup> <writegroup> <trap-ip> <snmp-port> { <trap-port> <security-name> }
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set snmp parameters of ONU
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;readgroup&gt;</b>	read group,it supports 1-32 strings
<b>&lt;writegroup&gt;</b>	write group,it supports 1-32 strings
<b>&lt;trap-ip&gt;</b>	Trap ip,format for xx:xx:xx:xx:xx:xx
<b>&lt;snmp-port&gt;</b>	Snmp port,range for 1-65535
<b>&lt;trap-port&gt;</b>	Trap port,range for 1-65535
<b>&lt;security-name&gt; &gt;</b>	Security-name,it supports 1-32 strings

### 【Example】

**Example 1 :** Set snmp parameters of ONU,Set read group as public,write group as private,trap ip as 192.168.5.200,snmp port is 23,trap port is 161,security name is test.

```
OLT(config-interface-epon-0/0)#ont snmp-config 1 1 v2c public private 192.168.5.200
23 161 test
```

```
OLT(config-interface-epon-0/0)#
```

### 21.3.13. Enable or Disable ONU Tx Optical Power Supply

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont tx-power-supply &lt;port-id&gt; &lt;onu-id&gt; {enable/disable} [&lt;disable-time&gt;   forever]</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the tx-power-supply limitation of specified ont and its shining time.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;ont-id&gt;</b>	Ont id,range fro 1-64
<b>{enable   disable } }</b>	Enable:ont shine in normal Disable:ont unshining
<b>&lt;disable-time&gt;   forever</b>	<disable-time>:unshining time of ont,range for 1-65534s Forever:make onu unshining forever

#### 【Example】

**Example 1:** Set ont 3 in pon 1 un-shining for 3s.

```
OLT(config-interface-epon-0/0)#ont tx-power-supply 1 3 disable 3
OLT(config-interface-epon-0/0)#
2000-01-01 00:07:06 PON 0/0/1 ONU 3 onu is offline
2000-01-01 00:07:10 PON 0/0/1 ONU 3 onu is online
```

### 21.3.14. Show ONU ipconfig(Remote Manage IP Address)

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont ipconfig &lt;port-id&gt; &lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show ont ipconfig,it includes manage ip,gateway,manage vlan and etc.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

#### 【Example】

**Example 1:** Show ipconfig of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont ipconfig 1 1
-----
```

```

Frame/Slot:0/0
Port:1
ONU-ID:1
IP:192.168.1.1
Subnet mask:255.255.255.0
Gateway:192.168.1.100
Manage VLAN:100
Manage priority:5
-----
OLT(config-interface-epon-0/0)#

```

### 21.3.15. Show ONU SNMP Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont snmp-config &lt;port-id&gt; &lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show snmp configuration of ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

**【Example】**

**Example 1:** Show snmp configuration of ont 1 in pon 1.

```

OLT(config-interface-epon-0/0)#show ont snmp-config 1 1
-----
Frame/Slot:0/0
Port:1
ONU-ID:1
Version:v2c
Read group name:public
Write group name:private
Destination IP:192.168.5.200
Snmp port:162
Trap port:162
SNMP body name:
-----
OLT(config-interface-epon-0/0)#

```

### 21.3.16. Show ONU Capability Information



<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont capability &lt;port-id&gt;</b> <b>&lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show ont capability info,including ont port type,number and etc.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

### 【 Example 】

**Example 1:** Show ont 3 capability info in pon 1.

```

OLT(config-interface-epon-0/0)#show ont capability 1 3
-----
Frame/Slot:0/0
Port:1
ONU-ID:3
Type:SFU
Number of uplink PON ports:1
Number of ETH ports:4(4FE+0GE)
Number of POTS ports:0
Number of CATV ports:1
Number of uplink queues:8
MAX number of uplink queues:8
Number of downlink queues:8
MAX number of downlink queues:8
Number of LLID:1
Fast leave ability:non-fast-leave in snooping mode
fast-leave in snooping mode
non-fast-leave in CTC mode
fast-leave in CTC mode
non-fast-leave in MLD snooping mode
fast-leave in MLD snooping mode
-----
OLT(config-interface-epon-0/0)#

```

## 21.3.17. Show ONU Configured Capability

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont config-capability &lt;port-id&gt;</b> <b>&lt;onu-id&gt;</b>
<b>View</b>	EPON interface view

<b>Description</b>	This command is used to show ont config-capability.It can check whether the ability is matched according to compare config-capability with capability.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

### 【Example】

**Example 1:** Show config-capability of ont 3 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont config-capability 1 3
-----
Frame/Slot:0/0
Port:1
ONU-ID:3
Number of ETH ports:adaptive
Number of POTS ports:adaptive
Number of CATV ports:adaptive
-----
OLT(config-interface-epon-0/0)#
```

## 21.3.18. Show ONU Optical Power Information

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont optical-info &lt;port-id&gt; &lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show optical info of ont in pon port.Generally,it is used to routine maintenance and troubleshooting of ont,it can show optical info of ont to check whether the optical module is in normal.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

### 【Example】

**Example 1:** Show optical info of ont 3 in pon 3.

```
OLT(config-interface-epon-0/0)#show ont optical-info 1 3
-----
Frame/Slot:0/0
Port:1
ONU-ID:3
```

```
ONU-MAC:E0:67:B3:31:85:8A
Voltage(V):3.34
Tx optical power(dBm):1.72
Rx optical power(dBm):-3.73
Laser bias current(mA):18.20
Temperature(C):45.07
-----
OLT(config-interface-epon-0/0)#
```

### 21.3.19. Show ONU Firmware Version

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont version</b> <port-id> <onu-id>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show ont version info,it can show software,hardware,vendor and etc info of ont.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

#### 【Example】

**Example 1:** Show version info of ont 3 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont version 1 3
-----
Frame/Slot:0/0
Port:1
ONU-ID:3
Vendor-ID:PON
OUI Version:CTC3.0
ONU model:572R(0x35373252)
Extended model:GT832T_R
ONU mac address:E0:67:B3:31:85:8A
ONU hardware version:V1.2
ONU software version:V2.1.5.b3
ONU chipset vendor ID:RL
ONU chipset model:9603
ONU chipset revision:01
ONU chipset version/date:00.00.07
ONU firmware version:0x56322e312e352e623320202d
-----
```

### 21.4. ONU Port VLAN Configuration(Non-template Mode)

### 21.4.1. ONU Port Native-vlan(access) Configs

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port native-vlan <port-id> <onu-id> eth <eth-port-id> vlan <vlan-id> priority <priority>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set native vlan of ont port. Caution: a corresponding vlan must be set in ont port firstly by the command of "ont port vlan".
<port-id>	Pon port id, range for 1-16
<onu-id>	Ont id, range for 1-64
<eth-port-id>	eth port id, range for 1-24
<vlan-id>	Vlan id, range for 1-4094
<priority>	Priority, range for 0-7

#### 【Example】

**Example 1:** Set the native vlan of ont 1 eth 1 in pon 1 as 100, and set its priority as 3.

```
OLT(config-interface-epon-0/0)#ont port native-vlan 1 1 eth 1 vlan 100 priority 3
```

```
OLT(config-interface-epon-0/0)#
```

### 21.4.2. ONU Port Vlan Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port vlan <port-id> <onu-id> eth <eth-port-id> <vlan-id> priority <priority>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set ont port vlan.
<port-id>	Pon port id, range for 1-16
<onu-id>	Ont id, range for 1-64
<eth-port-id>	eth port id, range for 1-24
<vlan-id>	Vlan id, range for 1-4094
<priority>	Priority, range for 0-7

#### 【Example】

**Example 1:** Set the port vlan of ont 1 eth 1 in pon 1 as 100, and set its priority as 5.

```
OLT(config-interface-epon-0/0)#ont port vlan 1 1 eth 1 100 5
```

```
OLT(config-interface-epon-0/0)#
```

### 21.4.3. ONU Port Translation Mode VLAN Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port vlan <port-id> <onu-id> eth <eth-port-id> translation <service-vlan-id> <priority> <customer-vlan-id> <priority>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set vlan translation of ont port,it translates the service vlan to customer vlan in downstream direction.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
<service-vlan-id> >	service vlan id,range for 1-4094
<customer-vlan-id>	Customer vlan id,range for 1-4094
<priority>	Priority,range for 0-7

#### 【Example】

**Example 1:** Set vlan mode of ont 1 eth 1 in pon 1 as translation and translate its service vlan 12 to customer vlan 13.

```
OLT(config-interface-epon-0/0)#ont port vlan 1 1 eth 1 translation 12 user-vlan 13
```

```
OLT(config-interface-epon-0/0)#
```

### 21.4.4. ONU Port Transparent Mode VLAN Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port vlan <port-id> <onu-id> eth <eth-port-id> transparent
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set vlan transparent mode of ont port
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64

<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
----------------------------	----------------------------

**【 Example 】**

**Example 1:** Set vlan mode of ont 1 eth 1 in pon 1 as transparent.

```
OLT(config-interface-epon-0/0)#ont port vlan 1 1 eth 1 transparent

OLT(config-interface-epon-0/0)#
```

### 21.4.5. Show ONU Port VLAN Configuration

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont port vlan &lt;port-id&gt; &lt;onu-id&gt; eth &lt;onu-port id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show specified eth port vlan of ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;onu-port id&gt;</b>	Eth port id

**【 Example 】**

**Example 1:** Show eth 1 port vlan of ont 2 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont port vlan 1 2 eth 1
-----
Frame/Slot:0/0
Port:1
ONU ID:2
Port ID:1
-----
Service Profile ID:0
Service Profile name:srvprofile_0
-----
Service-type Index N-VLAN N-PRI S-VLAN S-PRI C-VLAN C-PRI
-----
Transparent-----
-----
OLT(config-interface-epon-0/0)#
```

## 21.5. ONU Port Management

### 21.5.1. Enable or Disable ONU Port

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> operational-state {on/off}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable ont port.ont port can communicate normally when it is in enabling state,else it can't.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
{on/off}	On:enable eth port Off:disable eth port

#### 【Example】

**Example 1:** Disable ont 1 eth 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 operational-state off
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.2. ONU Port Isolate Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port-isolate <port-id> <onu-id> {enable   disable}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable ont port isolation function.If it is enabled,port to port of ont can not communicate,else they can communicate with each other.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
{enable   disable } }	Enable:enable ont port isolation function Disable:disable ont port isolation function

#### 【Example】

**Example 1:** enable ont 1 port isolation function in pon 1.

```
OLT(config-interface-epon-0/0)#ont port-isolate 1 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.3. ONU PON Port Performance Statistics Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont statistics</b> <port-id> <onu-id> <b>pon</b> {enable disable} period<period>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set performance statistics of ont's pon port and set its statistic period.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
{enable disable }	Enable:enable ont's pon port performance statistic function Disable:disable ont's pon port performance statistic function
<period>	The period of performance statistic,range for 1-864000,unit is second.

#### 【Example】

**Example 1:** Enable the performance statistic of ont1's pon port in pon 1 and set its period as 100s.

```
OLT(config-interface-epon-0/0)#ont statistics 1 1 pon enable period 100

OLT(config-interface-epon-0/0)#
```

### 21.5.4. ONU ETH Port Performance Statistics Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont statistics</b> <port-id> <onu-id> <b>eth</b> <b>&lt;eth-port-id&gt;</b> {enable disable} period<period>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set performance statistics of ont's eth port and set its statistic period.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
{enable disable }	Enable:enable ont's eth port performance statistic function Disable:disable ont's eth port performance statistic function
<period>	The period of performance statistic,range for 1-864000,unit is second.



**【Example】**

**Example 1:** Enable the performance statistic of ont1's eth 1 in pon 1 and set its period as 100s.

```
OLT(config-interface-epon-0/0)#ont statistics 1 1 eth 1 enable period 100

OLT(config-interface-epon-0/0)#
```

### 21.5.5. ONU CATV Port Enable or Disable

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> catv <catv-port-id> operational-status {on/off}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable CATV port of ont
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<catv-port-id>	CATV port id,value is 1
{on/off}	On:enable CATV port Off:disable CATV port

**【Example】**

**Example1:**Enable CATV port of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 catv 1 operational-state on

OLT(config-interface-epon-0/0)#
```

### 21.5.6. ONU Port Auto-negotiation Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> auto-neg {restart}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24

<b>restart</b>	Optional parameter,it is used to reset the autonegotiation function
----------------	---

**【Example】**

**Example 1:** Reset the autonegotiation function of ont 1 eth 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 auto-neg restart

OLT(config-interface-epon-0/0)#
```

### 21.5.7. ONU Port Downstream Rate Limit Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> ds-policing {unconcern   cir <cir-bandwidth> pir <pir-bandwidth>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set downstream rate limitation of ont port
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
<b>Unconcern</b>	It means that there is no limitation in this eth port.
<cir-bandwidth> >	Committed Information Rate,range for 64-1024000,unit is kbps
<pir-bandwidth> >	Peak Information Rate,range for 64-1024000,unit is kbps

**【Example】**

**Example 1:** Set downstream rate limitation of ont 1 eth 1 in pon 1,cir is 10000kbps,pir is 100000kbps.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 ds-policing cir 10000 pir 100000

OLT(config-interface-epon-0/0)#
```

### 21.5.8. ONU Port Upstream Rate Limit Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> up-policing {unconcern   cir <cir-bandwidth> cbs <cbs> ebs <ebs>}
----------------	--

<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set upstream rate limitation of ont port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
<b>Unconcern</b>	It means that there is no limitation in this eth port.
<b>&lt;cir-bandwidth &gt;</b>	Committed Information Rate,range for 64-1024000,unit is kbps
<b>&lt;cbs&gt;</b>	Committed Burst Size,range for 64-1024000,unit is kbps
<b>&lt;ebs&gt;</b>	Excess Burst Size,range for 2000-1024000,unit is kbps

#### 【Example】

**Example 1:** Set upstream rate limitation of ont 1 eth 1 in pon 1,cir is 10000kbps,cbs is 1234kbps,ebs is 2345kbps.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 up-policing cir 10000 cbs 1234 ebs 2345
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.9. Enable or Disable ONU Port Flow Control Function

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> flow-control {on/off}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable flow control of ont port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
<b>{on/off}</b>	On:enable flow control of ont port Off:disable flow control of ont port

#### 【Example】

**Example 1:** enable flow control of ont 1 eth 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 flow-control on
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.10. Clear ONU Port Learned MAC

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont port learned-mac-clear</b> <b>&lt;port-id&gt; &lt;onu-id&gt; eth &lt;eth-port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to clear the learned mac of ont port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24

#### 【Example】

**Example 1:** Clear the learned mac of ont 1 eth 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont port learned-mac-clear 1 1 eth 1
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.11. ONU Port MAC Count Limit Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont port attribute &lt;port-id&gt;</b> <b>&lt;onu-id&gt; eth &lt;eth-port-id&gt; max-mac-count {&lt;max-mac-count&gt;</b> <b> no-learning unlimited}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to limit the learned mac count of ont port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
<b>{&lt;max-mac-count&gt; no-learning unlimited}</b>	Max-mac-count:range for 1-254 No-learning:no learning mac address Unlimited:unlimit the count of learned mac address

#### 【Example】

**Example 1:** Limit the learned mac address count of ont 1 eth 1 in pon 1 as 100 entries.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 max-mac-count 100
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.12. ONU Port Multicast Group Number Limit Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> multicast-max-group-num <number>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to limit the multicast group number of ont port
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
<number>	Max multicast group number,range for 0-255

#### 【Example】

**Example 1:** Limit the multicast group number of ont 1 eth 1 in pon 1 as 5 entries.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 multicast-max-group-num 5
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.13. ONU Port Multicast VLAN Process Mode Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> multicast-tagstrip {tag   untag   translation} {<service-vlan><customer-vlan>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the multicast vlan mode of ont eth port.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
{tag   untag   translation}	Tag:no peeling off multicast VLAN tag Untag:peel off multicast VLAN tag Translation:translates the multicast vlan
<service-vlan>	Server-side VLAN,range for 1-4094

<b>&lt;customer-vlan&gt;</b>	Customer VLAN,range for 1-4094
------------------------------	--------------------------------

**【Example】**

**Example 1:** Set the multicast vlan mode of ont 1 eth 1 in pon 1 as tag.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 multicast-tagstrip untag
OLT(config-interface-epon-0/0)#
```

**Example 2:**Set the multicast vlan mode of ont 1 eth 1 in pon 1 as translation,translate the server-side vlan 10 to customer vlan 11.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 multicast-tagstrip translation 10 11
OLT(config-interface-epon-0/0)#
```

### 21.5.14. ONU Port Speed and Duplex Mode Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> speed <speed> dulepx {full/half}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set the speed and duplex mode of ont port.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
<b>&lt;speed&gt;</b>	10: 10Mb/s 100: 100Mb/s 1000: 1000Mb/s
<b>full/half</b>	Full:full duplex Half:half duplex

**【Example】**

**Example 1:** Set the speed of ont 1 eth 1 in pon 1 as 1000Mbps,and set its duplex mode as full.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 speed 1000 dulepx full
OLT(config-interface-epon-0/0)#
```

### 21.5.15. ONU Port Storm-ctrl Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port attribute <port-id> <onu-id> eth <eth-port-id> xstorm-ctrl admin {disable/enable} type {all bcmc bcuc broadcast mcuc multicast unicast} rate<rate>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set strom-ctrl funcction of ont port and set its rate limitation
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
{disable enable}	Disable:disable storm-ctrl function Enable:enable storm-ctrl function
all bcmc bcuc broadcast mcuc multicast unicast	All:all of the broadcast message,multicast message,and unicast message Bcmc:broadcast message and multicast message Bcuc:broadcast message and unicast message Broadcast:broadcast message Mcuc:multicast message and unicast message Multicast:multicast message Unicast:unknown unicast message
<rate>	Rate,range for 8-16777215,unit is kbps

### 【Example】

**Example 1 :** Enable the storm-ctrl function of ont 1 eth 1 in pon 1,and set its unknown unicast rate limitation as 5000kbps.

```
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 1 storm-ctrl admin enable type unicast rate 5000
```

```
OLT(config-interface-epon-0/0)#
```

## 21.5.16. Enable or Disable ONU Port Loop Detect Function

<b>Command</b>	OLT(config-interface-epon-0/0)#ont ring check <port-id> <onu-id> {enable disable}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable the ring check of specified ont in pon port.After enabling this function,the olt will alarm if there

	is a ring in ont.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>{enable disable }</b>	Enable Disable

**【Example】**

**Example 1:** Enable ring check of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont ring check 1 1 enable

OLT(config-interface-epon-0/0)#
```

## 21.5.17. Enable or Disable ONU Port Loop Detected

### Auto-shutdown Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont ring check &lt;port-id&gt; &lt;onu-id&gt; auto-shutdown {enable disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable auto-shutdown eth port when ring occurs in ont.After executing this command,if ont has a ring,ont will shutdown the port to prevent the ring from affecting the upper network.the default is“enable”
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>{enable disable }</b>	Enable Disable

**【Example】**

**Example 1:** Enable auto-shutdown eth port of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont ring check 1 1 auto-shutdown enable

OLT(config-interface-epon-0/0)#
```

## 21.5.18. ONU Port Upstream classification/mapping/priority-mark

### Rule Config



<b>Command</b>	OLT(config-interface-epon-0/0)#ont port classification <port-id> <onu-id> eth <eth-port-id> acl <acl-id> rule <rule-id> { precedence <precedence> queue-mapped <queue-id> priority-mark <priority> no-priority-mark }
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set upstream classification/mapping/priority-mark rule of ont port
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
<acl-id>	Acl id,range for 9000-9499
<rule-id>	Rule id,range for 1-8
<precedence>	Priority,range for 0-255
<queue-id>	Queue id,range for 0-7
<priority> no-priority-mark	<priority>:priority mark,range for 0-7 no-priority-mark

### 【Example】

**Example 1:** Map the ont 1 eth 1 in pon 1 to acl 9000 and rule 1.

```
OLT(config-interface-epon-0/0)#ont port classification 1 1 eth 1 acl 9000 rule 1
```

```
OLT(config-interface-epon-0/0)#
```

## 21.5.19. Show ONU Port Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)#show ont statistics <port-id> <onu-id> eth <eth-port-id> status
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show performance statistics of ont port
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24

**【Example】**

**Example 1:** Show performance statistics of ont 1 eth 1 in pon 1.

```

OLT(config-interface-epon-0/0)#show ont statistics 1 1 eth 1 status
-----
S/P:0/1
ONU ID:1
Port ID:UNI1
Statistics status:Disable
Statistics period:0
-----

OLT(config-interface-epon-0/0)#
    
```

**21.5.20. Show ONU Port Attribute(Configuration)**

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont port attribute &lt;port-id&gt; &lt;onu-id&gt; eth all</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show ont port attribute
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>all</b>	All the eth port

**【Example】**

**Example 1:** Show all the eth port attribute of ont 3 in pon 3.

```

OLT(config-interface-epon-0/0)#show ont port attribute 3 3 eth all
-----
ONU ONU Auto-neg Speed Duplex Port Flow Mac
port(Mbps)switch control Limit
-----
3 1 Enable Auto Auto on off unlimited
3 2 Enable Auto Auto on off unlimited
3 3 Enable Auto Auto on off unlimited
3 4 Enable Auto Auto on off unlimited
3 5 Enable Auto Auto on off unlimited
3 6 Enable Auto Auto on off unlimited
3 7 Enable Auto Auto on off unlimited
3 8 Enable Auto Auto on off unlimited
-----
    
```

```
OLT(config-interface-epon-0/0)#
```

### 21.5.21. Show ONU CATV Port Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont port state &lt;port-id&gt; &lt;onu-id&gt; {eth   catv&lt;onu-portid&gt;}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show state of ont's eth port and catv port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;ONU-portid&gt;</b>	Port id of eth or catv

#### 【Example】

**Example 1:** Show all eth port state of ont 2 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont port state 1 2 eth all
-----
Port Type Port-switch Link Flow-cONUrol Auto-neg Max-MAC
-----
1 eth on on off enable unlimit
2 eth on off off enable unlimit
3 eth on off off enable unlimit
4 eth on off off enable unlimit
-----
OLT(config-interface-epon-0/0)#
```

### 21.5.22. Show ONU Port Learned MAC Address Information

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont port learned-mac &lt;port-id&gt; &lt;onu-id&gt; eth &lt;eth-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show learned-mac address of ont port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>all</b>	All the eth port

**【Example】**

**Example 1:** Show learned-mac address of ont3's all eth port in pon 3.

```
OLT(config-interface-epon-0/0)#show ont port learned-mac 1 5 eth 1
-----
Index MAC
-----
1 F0:DE:F1:62:C5:97
2 74:D0:2B:A1:F1:84
3 E0:67:B3:00:57:3E
4 5C:FF:35:0D:D8:C5
5 EC:6C:9F:05:49:79
6 20:6A:8A:54:6C:7D
-----
OLT(config-interface-epon)#
```

### 21.5.23. Show ONU PON Port Performance Statistics

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont statistics &lt;port-id&gt; &lt;onu-id&gt; pon status</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show performance statistics of ont's pon port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

**【Example】**

**Example 1:** Show performance statistics of ont 1's pon port in pon 1.

```
OLT(config-interface-epon-0/0)#show ont statistics 1 1 pon status
-----
S/P:0/1
ONU ID:1
Port ID:PON1
Statistics status:Disable
Statistics period:0
-----
OLT(config-interface-epon-0/0)#
```

## 21.6. ONU IGMP Function Configuration(Non-template Mode)

### 21.6.1. ONU IGMP Mode Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont multicast-mode <port-id> <onu-id> <mode>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set multicast mode of ont
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
<mode>	Ctc:controllable multicast mode transparent igmp-snooping

#### 【Example】

**Example 1:** Set the multicast mode of ont 4 in pon 1 as snooping mode.

```
OLT(config-interface-epon-0/0)#ont multicast-mode 1 4 igmp-snooping

OLT(config-interface-epon-0/0)#
```

### 21.6.2. ONU Ffast-leave Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont multicast fast-leave <port-id> <onu-id> {enable   disable}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set ont multicast fast-leave.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64
{enable   disable }	Enable:enable multicast fast-leave Disable:disable multicast fast-leave

#### 【Example】

**Example 1:** Enable multicast fast-leave in pon 1 onu 4.

```
OLT(config-interface-epon-0/0)#ont multicast fast-leave 1 4 enable

OLT(config-interface-epon-0/0)#
```

### 21.6.3. Show ONU Multicast-group Record

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont multicast-group &lt;port-id&gt; &lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show multicast-group of ont.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

#### 【Example】

**Example 1:** Show multicast-group of ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont multicast-group 1 1
ERROR:There is not any onu group record

OLT(config-interface-epon-0/0)#
```

### 21.6.4. Show ONU IGMP Mode

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont multicast-mode &lt;port-id&gt; &lt;onu-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show multicast-mode of ont.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

#### 【Example】

**Example 1:** Show multicast-mode of ont 3 in pon 3.

```
OLT(config-interface-epon-0/0)#show ont multicast-mode 3 3
-----
Frame/Slot:0/0
Port:3
ONU-ID:3
Multicast mode:Transparent
-----

OLT(config-interface-epon-0/0)#
```

### 21.6.5. Show ONU Port IGMP VLAN Tagstrip Mode

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont port attribute &lt;port-id&gt; &lt;onu-id&gt; eth &lt;eth-id&gt; multicast-tagstrip</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show multicast-tagstrip mode of ont eth port
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-id&gt;</b>	Eth port id,range for 1-24

### 【Example】

**Example 1:** Show multicast-tagstrip mode of ont 3 eth 1 in pon 3.

```

OLT(config-interface-epon-0/0)#show ont port attribute 3 3 eth 1 multicast-tagstrip
-----
Frame/Slot:0/0
Port:3
ONU ID:3
Port ID:1
-----
Service Profile ID:0
Service Profile name:srvprofile_0
-----
Tag strip mode:tag
-----
OLT(config-interface-epon-0/0)#

```

## 21.7. ONU Upgrade Management

### 21.7.1. Transfer ONU Firmware to OLT

<b>Command</b>	OLT(config)# <b>load file {ftp &lt;ip-address&gt; &lt;ftp-user-name&gt; &lt;ftp-user-password&gt; &lt; FILE-NAME&gt;}   {tftp &lt;ip-address&gt; &lt; FILE-NAME&gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to transfer the upgrade file of the ONU to the OLT.
<b>ftp</b>	Use the ftp protocol to transfer ONU upgrade files to the OLT.

<b>&lt;ip-address&gt;</b>	IP address of ftp or tftp server, format X.X.X.X
<b>&lt;ftp-user-name &gt;</b>	User name of the ftp server, ranging from 1 to 32 characters.
<b>&lt;ftp-user-passw ord&gt;</b>	Access password of the ftp server, ranging from 1 to 32 characters.
<b>&lt; FILE-NAME&gt;</b>	The name of the upgrade file of the ONU, ranging from 1 to 64 characters. The extension of the ONT upgrade file is required.
<b>tftp</b>	Transfer the ONT upgrade file to the OLT using the tftp protocol.

### 【Example】

**Example 1:** Use the ftp method to transfer the ONT upgrade file 111.tar to the OLT.

```
OLT(config)# load file ftp 192.168.5.111 test test 111.tar
OLT(config)#
```

## 21.7.2. Batch Upgrade ONU

<b>Command</b>	OLT(config)# <b>ont load select {all   model &lt; MODEL-ID &gt;}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure the OLT to upgrade the ONUs in batches.
<b>all</b>	Configure to upgrade all ONUs
<b>&lt; MODEL-ID &gt;</b>	Configure batch upgrade of ONUs based on the model id of the ONU.

### 【Example】

**Example 1:** Configure the ONUs in batches according to the model id 0x31303053 of the ONU.

```
OLT(config)# ont load select model 0x31303053
Number of ONTs that can be selected: 0, success: 0

OLT(config)#
```

## 21.7.3. Start or Stop Batch Upgrade ONU

<b>Command</b>	OLT(config)# <b>ont load start &lt;FILENAME &gt;commit-mode {auto   manual}</b> OLT(config)# <b>ont load stop</b>
<b>View</b>	Config view



<b>Description</b>	This command is used to start or stop the ONU batch upgrade.
<b>load start</b>	Configure to upgrade all ONUs
<b>&lt;FILENAME &gt;</b>	Configure the ONU upgrade file name for starting batch upgrade.
<b>commit-mode</b>	Select the new upgrade file to take effect mode. When not input, the default is ONU auto take effect in next time reboot.
<b>auto</b>	The effective mode of the ONU loading policy is that the graceful reset takes effect. That is, after loading the file to the ONU according to the loading policy, the ONU decides whether to restart immediately according to its own related settings to make the loading take effect (for example, whether there is an emergency call). The ONU waits for up to four hours, and when it is exceeded, it is forced to restart.
<b>manual</b>	After the loading is completed, the ONU is manually restarted to make the loading take effect.
<b>load stop</b>	Delete the ONU load data. This parameter is enabled when you want to delete all load tasks and data on the ONU immediately.

#### 【Example】

**Example 1:** Start the ONU to use the 111.tar upgrade file for batch upgrade. After the upgrade, it will automatically restart to make the upgrade take effect.

```
OLT(config)# ont load start 111.tar commit-mode auto
```

```
OLT(config)
```

### 21.7.4. Show ONU Upgrade Configuration Information

<b>Command</b>	OLT(config)# <b>show ont load info</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the configuration information of the ONU upgrade that needs to be upgraded.

#### 【Example】

**Example 1:** Check the ONU upgrade information configured on the OLT.

```
OLT(config)# show ont load info
```

```
-----
File name      :
Load state    : stop
Commit mode   : auto
```

```
-----
OLT(config)#
```

### 21.7.5. Show ONU Upgrade Progress

<b>Command</b>	OLT(config)# <b>show ont load select</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to check the progress of the ONU upgrade.

#### 【Example】

**Example 1:** Check the progress of the ONU upgrade under the OLT.

```
OLT(config)# show ont load select
-----
F/S PON ONT ID   State      Progress
-----
0/0 3    1         waiting   0%
-----
Total: 1, waiting: 1, fail: 0, success: 0, loading: 0, cancel: 0
OLT(config)#
```

### 21.7.6. Separately Upgrade ONU Under PON Port

<b>Command</b>	OLT(config)# <b>show ont load select</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to select an ONU that needs to be upgraded separately under the PON port.
<b>&lt;port-id&gt;</b>	Specifies the PON port number where the ONU is located. The value is 1-16.
<b>&lt;onu-id&gt;</b>	The ONU id to be upgraded, in the range of 1-64.
<b>all</b>	Configure all ONU upgrades to the specified PON port.
<b>&lt; MODEL-ID &gt;</b>	Configure the ONU for the specified PON port to upgrade the ONU according to the model id.

#### 【Example】

**Example 1:** Select the first ONU under the PON1 port to be upgraded.

```
OLT(config-interface-epon-0/0)# ont load select 1 1
```

Number of ONUs that can be added: 1, success: 1

OLT(config-interface-epon-0/0)#

### 21.7.7. Active and Commit ONU New Firmware

<b>Command</b>	OLT(config-interface-epon-0/0)#ont load commit <port-id> {<onu-id>   all}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to activate the image of the ONU. After the ONU is upgraded, the command will be executed. After the ONU restarts, the new mirror software will be run. Otherwise, the ONU will only run the software image before the upgrade.
<b>&lt;port-id&gt;</b>	Specifies the PON port number where the ONU is located. The value is 1-16
<b>&lt;onu-id&gt;</b>	The ONU id of the new software to be activated, in the range of 1-64.
<b>all</b>	Activate new software for all ONUs under the specified PON port.

#### 【Example】

**Example 1:** Activate the software image of the first ONU under the PON1 port.

OLT(config-interface-epon-0/0)# ont load commit 1 1

Number of ONUs that can be commit: 1, success: 1

OLT(config-interface-epon-0/0)#

## 21.8. ONU Alarm Management

### 21.8.1. ONU Optical Bias Current Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm optical <port-id> <onu-id> {bias-high-alarm   bias-high-warning   bias-low-alarm   bias-low-warning} {enable   disable} <threshold><restore-threshold>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable bias current alarm of specified ont and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64

<p><b>bias-high-alarm</b></p> <p><b>bias-high-warning</b></p> <p><b>bias-low-alarm</b></p> <p><b>bias-low-warning</b></p>	<p>bias-high-alarm: bias current overtops the highest alarm threshold.</p> <p>bias-high-warning: warning the high bias current</p> <p>bias-low-alarm: alarming the bias current lower than threshold</p> <p>bias-low-warning: warning the low bias current</p>
<b>{enable   disable}</b>	<p>Enable</p> <p>Disable</p>
<b>&lt;threshold&gt;</b>	The alarm threshold, range for 0-10000, unit is mA
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold, range for 0-10000, unit is mA

**【Example】**

**Example 1 :** Enable the bias current alarm of ont 1 in pon 1, set its alarm threshold as 50, restore-threshold as 45.

```
OLT(config-interface-epon-0/0)#ont alarm optical 1 1 bias-high-alarm enable 50 45
OLT(config-interface-epon-0/0)#
```

## 21.8.2. ONU Optical Voltage Alarm Function Config

<b>Command</b>	<p>OLT(config-interface-epon-0/0)#ont alarm optical &lt;port-id&gt; &lt;onu-id&gt; {voltage-high-alarm   voltage-high-warning   voltage-low-alarm   voltage-low-warning}{enable   disable} &lt;threshold&gt;&lt;restore-threshold&gt;</p>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable voltage alarm of specified ont and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id, range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id: ont id, range for 1-64
<p><b>voltage-high-alarm</b></p> <p><b>voltage-high-warning</b></p> <p><b>voltage-low-alarm</b></p> <p><b>voltage-low-warning</b></p>	<p>voltage-high-alarm: voltage overtops the alarm threshold</p> <p>voltage-high-warning: warning the higher voltage</p> <p>voltage-low-alarm: alarming the voltage is lower than threshold</p> <p>voltage-low-warning: warning the lower voltage</p>

{enable   disable } }	Enable Disable
<threshold>	The alarm threshold,range for 0.00-100.00,unit is V
<restore-threshold>	The alarm restored threshold,range for 0.00-100.00,unit is V

### 【Example】

**Example 1:** Enable the voltage alarm of ont 1 in pon 1,set its range of threshold as 1-5V.

```
OLT(config-interface-epon-0/0)#ont alarm optical 1 1 voltage-high-alarm enable 1 5
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.3. ONU Optical Power Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm optical <port-id> <onu-id> {rx-power-high-alarm   rx-power-high-warning   rx-power-low-alarm   rx-power-low-warning   tx-power-high-alarm   tx-power-high-warning   tx-power-low-alarm   tx-power-low-warning} {enable   disable} <threshold> <restore-threshold>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable optical power alarm of specified ont and set its alarm threshold
<port-id>	Pon port id,range for 1-16
<onu-id>	Onu-id:ont id,range for 1-64
rx-power-high-alarm rx-power-high-warning rx-power-low-alarm rx-power-low-warning tx-power-high-alarm tx-power-high-warning tx-power-low-alarm tx-power-low-warning	rx-power-high-alarm:rx-power overtops the alarm threshold rx-power-high-warning:warning the high rx-power rx-power-low-alarm:rx-power is lower than alarm threshold rx-power-low-warning:warning the low rx-power tx-power-high-alarm:tx-power overtops the alarm threshold tx-power-high-warning:warning the high tx-power tx-power-low-alarm:tx-power is lower than alarm threshold tx-power-low-warning:warning the low tx-power

<b>tx-power-low-warning</b>	
<b>{enable   disable }</b>	Enable Disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for(-99)-100.00,unit is dbm
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold,range for(-99)-100.00,unit is dbm

#### 【Example】

**Example 1 :** Enable the rx-power alarm of ont 1 in pon 1,set itsalarm threshold as-3,restore-threshold as-4.

```
OLT(config-interface-epon-0/0)#ont alarm optical 1 1 rx-power-high-alarm enable-3-4
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.4. ONU Opitcal Temperature Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont alarm optical &lt;port-id&gt; &lt;onu-id&gt; {temperature-high-alarm   temperature-high-warning   temperature-low-alarm   temperature-low-warning}{enable   disable} &lt;threshold&gt; &lt;restore-threshold&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable temperature alarm of specified ont and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>temperature-high-alarm temperature-high-warning temperature-low-alarm temperature-low-warning</b>	temperature-high-alarm:temperature overtops the alarm threshold temperature-high-warning:warning high temperature but not reaching the alarm threshold temperature-low-alarm:temperature is lower than alarm threshold temperature-low-warning:warning low temperature but not reaching the alarm threshold
<b>{enable   disable }</b>	Enable Disable

<b>&lt;threshold&gt;</b>	The alarm threshold,range for(-99)-300,unit is °C
<b>&lt;restore-thresh old&gt;</b>	The alarm restored threshold,range for(-99)-300,unit is °C

### 【Example】

**Example 1 :** Enable the temperature alarm of ont 1 in pon 1,set its alarm threshold as 55 °C,restore-threshold as 45 °C.

```
OLT(config-interface-epon-0/0)#ont alarm optical 1 1 temperature-high-alarm enable 55 45
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.5. ONU Port CRC Checkout Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm port <port-id> <onu-id> {pon eth} <eth-port-id> {rx-crcerrors-alarm rx-crcerrors-warning tx-crcerrors-alarm tx-crcerrors-warning} {enable disable} <threshold> <restore-threshold>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable error message CRC checkout alarm of specified ont port and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-crcerrors-alarm rx-crcerrors-warning tx-crcerrors-alarm tx-crcerrors-warning</b>	rx-crcerrors-alarm:receive the crc checkout message error alarm rx-crcerrors-warning:receive the crc checkout message error warning tx-crcerrors-alarm:transmit the crc checkout message error alarm tx-crcerrors-warning:transmit the crc checkout message error warning
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-thresh</b>	The alarm restore threshold,range for 0-4294967294

old>	
------	--

**【Example】**

**Example 1:** Enable the crc checkout alarm of eth1 in pon 1 ont 1,set its alarm threshold as 234,restore-threshold as 150.

<pre>OLT(config-interface-epon-0/0)#ont alarm port 1 1 pon rx-crcerrors-alarm enable 234 150  OLT(config-interface-epon-0/0)#</pre>
---

## 21.8.6. ONU Port Dropping Message Alarm Function Config

<b>Command</b>	<pre>OLT(config-interface-epon-0/0)#ont alarm port &lt;port-id&gt; &lt;onu-id&gt; {pon eth} &lt;eth-port-id&gt; {rx-discards-alarm rx-discards-warning tx-discards-alarm tx-discards-warning} {enable disable} &lt;threshold&gt; &lt;restore-threshold&gt;</pre>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable dropping message alarm of specified ont port and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-discards-alarm rx-discards-warning tx-discards-alarm tx-discards-warning</b>	rx-discards-alarm:receive the alarm of discarded message rx-discards-warning:receive the warning of discarded message tx-discards-alarm:transmit the alarm of discarded message tx-discards-warning:transmit the warning of discarded message
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold,range for 0-4294967294

**【Example】**

**Example 1:** Enable and receive the alarm of discarded message of eth1 in pon 1 ont 1,set its



alarm threshold as 200,restore-threshold as 150.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-discards-alarm enable 200
150

OLT(config-interface-epon-0/0)#
```

### 21.8.7. ONU Port Dropevents Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm port <port-id> <onu-id> {pon eth} <eth-port-id> {rx-dropevents-alarm  rx-dropevents-warning tx-dropevents-alarm tx-dropevents-warning} {enable disable} <threshold> <restore-threshold>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable dropevents alarm of specified ont port and set its alarm threshold
<port-id>	Pon port id,range for 1-16
<onu-id>	Onu-id:ont id,range for 1-64
{pon eth}	Pon:ont's pon port Eth:ont's ethernet port
<eth-port-id>	Ont's ethernet port id,range for 1-24
rx-dropevents-alarm rx-dropevents-warning tx-dropevents-alarm tx-dropevents-warning	rx-dropevents-alarm:receive the alarm of drop event rx-dropevents-warning:receive the warning of drop event tx-dropevents-alarm:transmit the alarm of drop event tx-dropevents-warning:transmit the warning of drop event
{enable disable}	enable disable
<threshold>	The alarm threshold,range for 0-4294967294
<restore-threshold>	The alarm stored threshold,range for 0-4294967294

#### 【Example】

**Example 1:** Enable and receive the alarm of dropevents of eth1 in pon 1 ont 1,set its alarm threshold as 123,restore-threshold as 100.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-dropevents-alarm enable
123 100
```

```
OLT(config-interface-epon-0/0)#
```

### 21.8.8. ONU Port Error Message Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont alarm port &lt;port-id&gt; &lt;onu-id&gt; {pon eth} &lt;eth-port-id&gt; {rx-errors-alarm  rx-errors-warning tx-errors-alarm  tx-errors-warning} {enable disable} &lt;threshold&gt; &lt;restore-threshold&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable error message alarm of specified ont port and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-errors-alarm  rx-errors-warning tx-errors-alarm  tx-errors-warning</b>	rx-errors-alarm:receive the alarm of error message rx-errors-warning:receive the warning of error message tx-errors-alarm:transmit the alarm of error message tx-errors-warning:transmit the warning of error message
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold,range for 0-4294967294

#### 【Example】

**Example 1:** Enable and receive the alarm of error message of eth1 in pon 1 ont 1,set its alarm threshold as 123,restore-threshold as 100.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-errors-alarm enable 123 100
```

```
OLT(config-interface-epon-0/0)#
```

### 21.8.9. ONU Port Message Fragment Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont alarm port &lt;port-id&gt; &lt;onu-id&gt;</b>
----------------	--

	<code>{pon eth} &lt;eth-port-id&gt; {rx-fragments-alarm  rx-fragments-warning  tx-fragments-alarm  tx-fragments-warning} {enable disable} &lt;threshold&gt; &lt;restore-threshold&gt;</code>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable message fragment alarm of specified ont port and set its alarm threshold
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-fragments-alarm  rx-fragments-warning  tx-fragments-alarm  tx-fragments-warning</b>	rx-fragments-alarm:receive the alarm of message fragment rx-fragments-warning:receive the warning of message fragment tx-fragments-alarm:transmit the alarm of message fragment tx-fragments-warning:transmit the warning of error message
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold,range for 0-4294967294

### 【Example】

**Example 1:** Enable and receive the alarm of message fragment of eth1 in pon 1 ont 1,set its alarm threshold as 123,restore-threshold as 100.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-fragments-alarm enable 123 100
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.10. ONU Port Message Jabber(time out) Alarm Function Config

<b>Command</b>	<code>OLT(config-interface-epon-0/0)#ont alarm port &lt;port-id&gt; &lt;onu-id&gt; {pon eth} &lt;eth-port-id&gt; {rx-jabbers-alarm  rx-jabbers-warning  tx-jabbers-alarm  tx-jabbers-warning} {enable disable} &lt;threshold&gt; &lt;restore-threshold&gt;</code>
----------------	---

<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable message jabber alarm of specified ont port and set its alarm threshold,it means when the message has crc error and it is out of the range,it will alarm.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-jabbers-alar m rx-jabbers-w arning tx-jabbe rs-alarm tx-jab bers-warning</b>	rx-jabbers-alarm:receive the alarm of message jabber rx-jabbers-warning:receive the warning of message jabber tx-jabbers-alarm:transmit the alarm of message jabber tx-jabbers-alarm:transmit the warning of message jabber
<b>{enable disab le }</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-thresh old&gt;</b>	The alarm restored threshold,range for 0-4294967294

### 【Example】

**Example 1:** Enable and receive the alarm of message jabber of eth1 in pon 1 ont 1,set its alarm threshold as 1518,restore-threshold as 1500.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-jabbers-alarm enable 1518
1500
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.11. ONU Port Oversize Message Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont alarm port &lt;port-id&gt; &lt;onu-id&gt; {pon eth} &lt;eth-port-id&gt; {rx-oversizes-alar m rx-oversizes-w arning tx-oversizes-alar m tx-oversizes-w arning} {enable disab le} &lt;threshold&gt; &lt;restore-thresh old&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable oversize message alarm of

	specified ont port and set its alarm threshold,it means crc of message is correct but the size of it is over range,it will alarm.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-oversizes-alarm rx-oversizes-warning tx-oversizes-alarm tx-oversizes-warning</b>	rx-oversizes-alarm:receive the alarm of oversize message rx-oversizes-warning:receive the warning of oversize message tx-oversizes-alarm:transmit the alarm of oversize message tx-oversizes-warning:transmit the warning of oversize message
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The lowest alarm threshold,range for 0-4294967294
<b>&lt;restore-threshold&gt;</b>	The highest alarm threshold,range for 0-4294967294

### 【Example】

**Example 1:** Enable and receive the alarm of oversize message of eth1 in pon 1 ont 1,set its alarm threshold as 1518,restore-threshold as 1500.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-oversizes-alarm enable 1518 1500

OLT(config-interface-epon-0/0)#
```

## 21.8.12. ONU Port Ultra Short Message Alarm Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm port <port-id> <onu-id> {pon eth} <eth-port-id> {rx-undersizes-alarm   rx-undersizes-warning tx-undersizes-alarm tx-undersizes-warning} {enable disable} <threshold> <restore-threshold>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable ultra short message alarm of specified ont port and set its alarm threshold

<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Onu-id:ont id,range for 1-64
<b>{pon eth}</b>	Pon:ont's pon port Eth:ont's ethernet port
<b>&lt;eth-port-id&gt;</b>	Ont's ethernet port id,range for 1-24
<b>rx-undersizes-alarm rx-undersizes-warning tx-undersizes-alarm tx-undersizes-warning</b>	rx-undersizes-alarm:receive the alarm of ultra short message rx-undersizes-warning:receive the warning of ultra short message tx-undersizes-alarm:transmit the alarm of ultra short message tx-undersizes-warning:transmit the warning of ultra short message
<b>{enable disable}</b>	enable disable
<b>&lt;threshold&gt;</b>	The alarm threshold,range for 0-4294967294
<b>&lt;restore-threshold&gt;</b>	The alarm restored threshold,range for 0-4294967294

### 【Example】

**Example 1:** Enable and receive the alarm of ultra short message of eth1 in pon 1 ont 1,set its alarm threshold as 60,restore-threshold as 61.

```
OLT(config-interface-epon-0/0)#ont alarm port 1 1 eth 1 rx-undersizes-alarm enable 60
61
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.13. Enable or Disable ONU Dying-gasp Alarm Function

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>ont alarm dying-gasp &lt;port-id&gt; {enable disable}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to enable or disable dying-gasp alarm of specified ont
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>{enable disable}</b>	Enable:enable dying-gasp alarm of onu Disable:disable dying-gasp alarm of onu

**【Example】**

**Example 1:** Enable dying-gasp alarm of onu 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont alarm dying-gasp 1 enable
```

```
OLT(config-interface-epon-0/0)#
```

### 21.8.14. Bind Alarm-config to ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont alarm-config <port-id> {all   <onu-id>} {profile-id <profile-id>   profile-name<profile-name>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to bind the alarm-config to ont.but first of all,the alarm-profile should be created in config view.
<port-id>	Pon port id,range for 1-16
all   <onu-id>	All:all of the ont onu-id:Onu-id:ont id,range for 1-64
<profile-id>	Profile id,range for 1-50
<profile-name>	Profile name,it supports 1-16 strings

**【Example】**

**Example 1:** Bind alarm-profile 5 to ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont alarm-config 1 1 profile-id 5
```

```
OLT(config-interface-epon-0/0)#
```

### 21.8.15. Bind Optical-alarm-config to ONU

<b>Command</b>	OLT(config-interface-epon-0/0)#ont optical-alarm-config <port-id> {all   <onu-id>} {profile-id <profile-id>   profile-name<profile-name>}
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to bind the optical-alarm-config to ont.but first of all,the alarm-profile should be created in config view.
<port-id>	Pon port id,range for 1-16
all   <onu-id>	All:all of the ont onu-id:Onu-id:ont id,range for 1-64
<profile-id>	Profile id,range for 1-50

<profile-name>	Profile name,it supports 1-24 strings
----------------	---------------------------------------

**【Example】**

**Example 1:** Bind optical-alarm-profile 5 to ont 1 in pon 1.

```
OLT(config-interface-epon-0/0)#ont optical-alarm-profile 1 1 profile-id 5
```

```
OLT(config-interface-epon-0/0)#
```

### 21.8.16. Show ONU Dying-gasp Alarm Config Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont alarm dying-gasp</b> <b>{&lt;port-id&gt;  all}</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show configured state of ont dying-gasp alarm
<b>{&lt;port-id&gt;  all}</b>	port-id:Pon port id,range for 1-16 All:all the pon ports

**【Example】**

**Example 1:** Show ont alarm dying-gasp of all the pon port

```
OLT(config-interface-epon-0/0)#show ont alarm dying-gasp all
```

```
-----  
F/S P State  
-----
```

```
0/0 1 enable  
0/0 2 enable  
0/0 3 enable  
0/0 4 enable  
0/0 5 enable  
0/0 6 enable  
0/0 7 enable  
0/0 8 enable  
0/0 9 enable  
0/0 10 enable  
0/0 11 enable  
0/0 12 enable  
0/0 13 enable  
0/0 14 enable  
0/0 15 enable  
0/0 16 enable  
-----
```



```
OLT(config-interface-epon-0/0)#
```

### 21.8.17. Show ONU Optical power Alarm Config Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont alarm optical</b> <port-id> <onu-id>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show the configured state of optical alarm and temperature alarm and voltage alarm and etc.
<port-id>	Pon port id,range for 1-16
<onu-id>	Ont id,range for 1-64

#### 【Example】

**Example 1:** Show the configured state of optical alarm in pon 1 ont 1.

```
OLT(config-interface-epon-0/0)#show ont alarm optical 1 1
```

```
-----
Rx optical power high alarm:disable
Rx optical power low alarm:disable
Rx optical power high warning:disable
Rx optical power low warning:disable
Tx optical power high alarm:disable
Tx optical power low alarm:disable
Tx optical power high warning:disable
Tx optical power low warning:disable
Bias current high alarm:disable
Bias current low alarm:disable
Bias current high warning:disable
Bias current low warning:disable
Supply voltage high alarm:disable
Supply voltage low alarm:disable
Supply voltage high warning:disable
Supply voltage low warning:disable
Temperature high alarm:disable
Temperature low alarm:disable
Temperature high warning:disable
Temperature low warning:disable
-----
```

```
OLT(config-interface-epon-0/0)#
```

## 21.8.18. Show ONU ETH Port Alarm Config Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont alarm port &lt;port-id&gt; &lt;onu-id&gt; eth &lt;eth-port-id&gt;</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show configured state of ont eth port alarm
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	Eth port id,range for 1-24

### 【Example】

**Example 1:** Show eth port alarm's configured state of ont 1 eth 1 in pon 1.

```
OLT(config-interface-epon-0/0)#show ont alarm port 1 1 eth 1
-----
F/S P ONU-ID ONU-Port Alarm/Warning State Threshold Restore-Threshold
-----
0/0 1 1 1 tx-dropevents-alarm disable--
0/0 1 1 1 rx-dropevents-alarm disable--
0/0 1 1 1 tx-crcerrors-alarm disable--
0/0 1 1 1 rx-crcerrors-alarm disable--
0/0 1 1 1 tx-undersizes-alarm disable--
0/0 1 1 1 rx-undersizes-alarm disable--
0/0 1 1 1 tx-oversizes-alarm disable--
0/0 1 1 1 rx-oversizes-alarm disable--
0/0 1 1 1 tx-fragments-alarm disable--
0/0 1 1 1 rx-fragments-alarm disable--
0/0 1 1 1 tx-jabbers-alarm disable--
0/0 1 1 1 rx-jabbers-alarm disable--
0/0 1 1 1 tx-discards-alarm disable--
0/0 1 1 1 rx-discards-alarm disable--
0/0 1 1 1 tx-errors-alarm disable--
0/0 1 1 1 rx-errors-alarm disable--
0/0 1 1 1 tx-dropevents-warning disable--
0/0 1 1 1 rx-dropevents-warning disable--
0/0 1 1 1 tx-crcerrors-warning disable--
0/0 1 1 1 rx-crcerrors-warning disable--
0/0 1 1 1 tx-undersizes-warning disable--
0/0 1 1 1 rx-undersizes-warning disable--
0/0 1 1 1 tx-oversizes-warning disable--
0/0 1 1 1 rx-oversizes-warning disable--
```

```

0/0 1 1 1 tx-fragments-warning disable--
0/0 1 1 1 rx-fragments-warning disable--
0/0 1 1 1 tx-jabbers-warning disable--
0/0 1 1 1 rx-jabbers-warning disable--
0/0 1 1 1 tx-discards-warning disable--
0/0 1 1 1 rx-discards-warning disable--
0/0 1 1 1 tx-errors-warning disable--
0/0 1 1 1 rx-errors-warning disable--
-----
OLT(config-interface-epon-0/0)#

```

### 21.8.19. Show ONU PON Port Alarm Config Status

<b>Command</b>	OLT(config-interface-epon-0/0)# <b>show ont alarm port &lt;port-id&gt; &lt;onu-id&gt; pon</b>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to show configured state of ont pon port alarm
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64

**【Example】**

**Example 1:** Show configured state of ont 1's pon port alarm in pon 1.

```

OLT(config-interface-epon-0/0)#show ont alarm port 1 1 pon
-----
F/S P ONU-ID Alarm/Warning State Threshold Restore-Threshold
-----
0/0 1 1 rx-dropevents-alarm disable--
0/0 1 1 tx-dropevents-alarm disable--
0/0 1 1 rx-crcerrors-alarm disable--
0/0 1 1 tx-crcerrors-alarm disable--
0/0 1 1 rx-undersizes-alarm disable--
0/0 1 1 tx-undersizes-alarm disable--
0/0 1 1 rx-oversizes-alarm disable--
0/0 1 1 tx-oversizes-alarm disable--
0/0 1 1 rx-fragments-alarm disable--
0/0 1 1 tx-fragments-alarm disable--
0/0 1 1 rx-jabbers-alarm disable--
0/0 1 1 tx-jabbers-alarm disable--
0/0 1 1 rx-discards-alarm disable--
0/0 1 1 tx-discards-alarm disable--

```

```

0/0 1 1 rx-errors-alarm disable--
0/0 1 1 tx-errors-alarm disable--
0/0 1 1 rx-dropevents-warning disable--
0/0 1 1 tx-dropevents-warning disable--
0/0 1 1 rx-crcerrors-warning disable--
0/0 1 1 tx-crcerrors-warning disable--
0/0 1 1 rx-undersizes-warning disable--
0/0 1 1 tx-undersizes-warning disable--
0/0 1 1 rx-ossversizes-warning disable--
0/0 1 1 tx-oversizes-warning disable--
0/0 1 1 rx-fragments-warning disable--
0/0 1 1 tx-fragments-warning disable--
0/0 1 1 rx-jabbers-warning disable--
0/0 1 1 tx-jabbers-warning disable--
0/0 1 1 rx-discards-warning disable--
0/0 1 1 tx-discards-warning disable--
0/0 1 1 rx-errors-warning disable--
0/0 1 1 tx-errors-warning disable--
-----
OLT(config-interface-epon-0/0)#

```

### 21.9. ONU Port VLAN Pool Function Config

<b>Command</b>	OLT(config-interface-epon-0/0)#ont port vlan <port-id> <onu-id> eth <eth-port-id> vlan-pool <vlan-pool-id>
<b>View</b>	EPON interface view
<b>Description</b>	This command is used to set vlan-pool of ont port.it needs to create a vlan-pool in config view firstly.
<b>&lt;port-id&gt;</b>	Pon port id,range for 1-16
<b>&lt;onu-id&gt;</b>	Ont id,range for 1-64
<b>&lt;eth-port-id&gt;</b>	eth port id,range for 1-24
<b>&lt;vlan-pool-id&gt;</b>	Vlan-pool id,range for 1-128

**【Example】**

**Example 1:** Bind vlan-pool 2 to ont 1 eth 1 in pon 1.

```

OLT(config-interface-epon-0/0)#ont port vlan 1 1 eth 1 vlan-pool 2

OLT(config-interface-epon-0/0)#

```

## 22. OLT Log Management and Query

### 22.1. Add Syslog Record Server

<b>Command</b>	OLT(config)# <b>loghost add</b> <ip-address> <hostname>
<b>View</b>	Config view
<b>Description</b>	This command is used to add log server.Device will generate lots of log info when it is in running,but the storage space of device is limited,when it needs to set log server to collect the log info,using this command.After successful adding the log server,some of important log info of device will be recorded in this host by Syslog mechanism
<ip-address>	IP address of syslog server
<Hostname>	Name of syslog server.It used to distinct with other syslog server and uniquely identify the syslog server.

#### 【Example】

**Example 1:** Add syslog server,its ip is 192.168.1.223,server name is log.

```
OLT(config)#loghost add 192.168.1.223 log
```

```
OLT(config)#
```

### 22.2. Delete Syslog Record Server

<b>Command</b>	OLT(config)# <b>loghost delete ip</b> <ip-address> name <hostname>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete syslog server.when the syslog server is unnecessary or its ip address has been changed,this command can delete the log server.after that,we can add new log server or reset the old log server's ip.
<ip-address>	IP address of syslog server
<Hostname>	Name of syslog server.It used to distinct with other syslog server and uniquely identify the syslog server.

#### 【Example】

**Example 1:** Delete the syslog server,its ip is 192.168.2.245,server name is test.

```
OLT(config)#loghost delete ip 192.168.2.245 name test
Delete syslog host succeeded!

OLT(config)#
```

### 22.3. Enable or Disable Syslog Record to Server

<b>Command</b>	OLT(config)# <b>loghost operlog {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the switch of whether the olt log will transmit to log server.
<b>{enable   disable } }</b>	Enable:olt log will transmit to log server Disable:olt log will not transmit to log server

#### 【Example】

**Example 1:** olt log won't transmit to log server

```
OLT(config)#loghost operlog disable

OLT(config)#
```

### 22.4. Enable or Disable Alarmlog Record to Server

<b>Command</b>	OLT(config)# <b>loghost alarmlog {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the switch of whether the alarmlog of olt will transmit to log server.
<b>{enable   disable } }</b>	Enable:alarmlog of olt will transmit to log server. Disable:alarmlog of olt won't transmit to log server.

#### 【Example】

**Example 1:** Set alarmlog of olt won't transmit to log server.

```
OLT(config)#loghost alarmlog disable

OLT(config)#
```

### 22.5. Active Syslog Record server

<b>Command</b>	OLT(config)# <b>loghost activate ip</b> <ip-address> <b>name</b> <hostname>
<b>View</b>	Config view
<b>Description</b>	This command is used to active the host of log server.When setting the control level of log host info output or it needs to active the switch of log output,using this command.System will report the log to the corresponding host only after the log host is active successfully.
<b>&lt;ip-address&gt;</b>	IP address of syslog server
<b>&lt;Hostname&gt;</b>	Name of syslog server.It used to distinct with other syslog server and uniquely identify the syslog server.

### 【 Example 】

**Example 1:** Active the syslog server,its ip is 192.168.2.223,server name is loghost.

```
OLT(config)#loghost activate ip 192.168.2.223 name loghost
Activate syslog host succeeded!

OLT(config)#
```

## 22.6. Deactive Syslog Record Server

<b>Command</b>	OLT(config)# <b>loghost deactivate ip</b> <ip-address> <b>name</b> <hostname>
<b>View</b>	Config view
<b>Description</b>	This command is used to deactivate the host of log server.When an active log host is standing off and it needs to change the state of this log host,using this command.After setting,system won't report the log info to the log host.
<b>&lt;ip-address&gt;</b>	IP address of syslog server
<b>&lt;Hostname&gt;</b>	Name of syslog server.It used to distinct with other syslog server and uniquely identify the syslog server.

### 【 Example 】

**Example 1:** Deactive the syslog server,its ip is 192.168.2.223,server name is loghost.

```
OLT(config)#loghost deactivate ip 192.168.2.223 name loghost
Deactivate syslog host succeeded!

OLT(config)#
```

## 22.7. Show Syslog Record Server Config Status

<b>Command</b>	OLT(config)# <b>show loghost list</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to show the configuration info of loghost.including host ip address,host name,host state and etc.

### 【Example】

**Example 1:** Show the configuration info of loghost

OLT(config)#show loghost list
-----
IP address Host name Terminal state
192.168.2.223 loghost active
-----
OLT(config)#

## 22.8. Backup OLT Log

<b>Command</b>	OLT(config)# <b>backup log ftp &lt;server-ip-address&gt; &lt;user-name&gt; &lt;user-password&gt; &lt;filename&gt;</b>
<b>View</b>	Enable view,config view
<b>Description</b>	This command is used to save the log to ftp server by manually.
<b>&lt;server-ip-address&gt;</b>	IP address of ftp server
<b>&lt;user-name&gt;</b>	User name of ftp server
<b>&lt;user-password&gt;</b>	Password of ftp server
<b>&lt;filename&gt;</b>	The name of the backup log

### 【Example】

**Example 1 :** Save the log to ftp server 192.168.1.223,user name is admin,password is admin,file name is log.

OLT(config)#backup log ftp 192.168.1.223 admin admin logback
Start backup log files
The backup is successful

## 22.9. Erase OLT Log



<b>Command</b>	OLT(config)# <a href="#">erase log</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to delete the log of olt

#### 【Example】

**Example 1:** Erase the log of olt.

OLT(config)#erase log
OLT(config)#

## 22.10. 22.10 Show OLT Log

<b>Command</b>	OLT(config)# <a href="#">show log</a>
<b>View</b>	enable view,config view
<b>Description</b>	Show all the log of olt

#### 【Example】

**Example 1:** Show all the log of olt

OLT(config)#show log
2000/01/03 11:39:16[root@Console:13]logoff
2000/01/03 11:44:05[root@192.168.5.70:43]logoff
2000/01/03 12:33:20[root@192.168.5.70:43]logon via Telnet successfully
2000/01/03 12:33:21[192.168.5.70@root]cmd:enable
2000/01/03 12:33:22[192.168.5.70@root]cmd:config
2000/01/03 12:33:31[192.168.5.70@root]cmd:interface link-aggregation
2000/01/03 12:38:54[root@192.168.5.70:43]logoff
OLT(config)#

## 23. OLT Alarm Management and Query

### 23.1. Clear Specified Active Alarm Entry

<b>Command</b>	OLT(config)# <a href="#">alarm active clear &lt;alarm-raising-number&gt;</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear the specified active alarm entry
<b>&lt;alarm-raising-number&gt;</b>	Clear the active alarm according to alarm-raising-number.range for 1-4294967295.alarm-raising-number needs to use the follow

	command to show its detail info: <b>alarm output detail on</b> <b>show alarm active all</b>
--	---

**【Example】**

**Example 1:** Clear active alarm 2.

OLT(config)#alarm active clear 2 OLT(config)#
--

## 23.2. Clear Active Alarm by Specified Alarmlevel

<b>Command</b>	OLT(config)# <b>alarm active clear alarmlevel&lt;1-4&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear active alarm by specified alarmlevel
<b>&lt;1-4&gt;</b>	1- Critical 2- major 3- minor 4- warning

**【Example】**

**Example 1:** Clear the warning active alarm

OLT(config)#alarm active clear alarmlevel 4  OLT(config)#
---

## 23.3. Clear Active Alarm by Specified Board

<b>Command</b>	OLT(config)# <b>alarm active clear alarmparameter board &lt;F/S&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear active alarm by specified board.
<b>&lt;F/S&gt;</b>	Frame/slot:the default is 0/0

**【Example】**

**Example 1:** Clear active alarm in 0/0.

OLT(config)#alarm active clear alarmparameter board 0/0  OLT(config)#
---

## 23.4. Clear Active Alarm by Specified GE Port

<b>Command</b>	OLT(config)# <b>alarm active clear alarmparameter ge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear active alarm by specified GE port
<b>&lt;F/S/P&gt;</b>	Frame/slot/ge port id,range for 0/0/1–0/0/8

**【Example】**

**Example 1:** Clear the active alarm of ge1.

```
OLT(config)#alarm active clear alarmparameter ge 0/0/1
```

```
OLT(config)#
```

### 23.5. Clear Active Alarm by Specified PON Port

<b>Command</b>	OLT(config)# <b>alarm active clear alarmparameter pon &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear active alarm by specified pon port
<b>&lt;F/S/P&gt;</b>	Frame/slot/pon port id,range for 0/0/1–0/0/16

**【Example】**

**Example 1:** Clear the active alarm of pon 1.

```
OLT(config)#alarm active clear alarmparameter pon 0/0/1
```

```
OLT(config)#
```

### 23.6. Clear Active Alarm by Specified XGE Port

<b>Command</b>	OLT(config)# <b>alarm active clear alarmparameter xge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to clear active alarm by specified XGE port
<b>&lt;F/S/P&gt;</b>	Frame/slot/xge port id,range for 0/0/1–0/0/2

**【Example】**

**Example 1:** Clear the active alarm of xge 1.

```
OLT(config)#alarm active clear alarmparameter xge 0/0/1
```

```
OLT(config)#
```

## 23.7. Config Alarmlevel for Specified Alarm

<b>Command</b>	OLT(config)# <b>alarm alarmlevel</b> <alarm-id> <1-4>
<b>View</b>	Config view
<b>Description</b>	This command is used to set alarmlevel for specified alarm
<alarm-id>	alarm-raising-number.range for 1-4294967295
<0-4>	0- Default 1- critical 2- major 3- minor 4- warning

### 【Example】

**Example 1:** Set the alarmlevel of 102th alarm as 1(critical).

```
OLT(config)#alarm alarmlevel 102 1
OLT(config)#
```

## 23.8. Enable and Config Alarm Jitter-interval Time

<b>Command</b>	OLT(config)# <b>alarm jitter-interval</b> <interval>
<b>View</b>	Config view
<b>Description</b>	This command is used to enable and set alarm jitter-interval.When this command is executed,alarm of the system will wait for a jitter-interval and then report it to network management,if the alarm state has recover during a jitter-interval,this alarm won't be reported to network management.
<interval>	alarm interval,range for 1-60,unit is second.

### 【Example】

**Example 1:** Set alarm jitter-interval as 3s.

```
OLT(config)#alarm jitter-interval 3
OLT(config)#
```

## 23.9. Disable Alarm Jitter-proof Function

<b>Command</b>	OLT(config)# <b>alarm jitter-proof disable</b>
----------------	--

<b>View</b>	Config view
<b>Description</b>	This command is used to turn off alarm jitter-proof function.

**【Example】**

**Example 1:** Turn off alarm jitter-proof function

```
OLT(config)#alarm jitter-proof disable
OLT(config)#
```

## 23.10. Enable or Disable Specified Alarm Record Output

<b>Command</b>	OLT(config)# <b>alarm output alarmid &lt;alarm-id&gt; {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is enable and disable the specified alarm record output. When state is "enable", permitting the specified alarm record reporting to EMS. When state is "disable", denying the specified alarm record reporting to EMS.
<b>&lt;alarm-id&gt;</b>	alarm ID, the value range is 1-4294967294.
<b>{enable   disable } }</b>	Enable: turn on function Disable: turn off function

**【Example】**

**Example 1:** Disable the 102 alarm record output.

```
OLT(config)#alarm output alarmid 102 disable
OLT(config)#
```

## 23.11. Enable or Disable Specified Level Alarm Output

<b>Command</b>	OLT(config)# <b>alarm output alarmlevel &lt;alarmlevel&gt; {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is enable or disable the specified level alarm record output. When state is "enable", permitting the specified level alarm record reporting to EMS. When state is "disable", denying the specified level alarm record reporting to EMS.
<b>&lt;alarm-level&gt;</b>	1- Critical 2- Major 3- Minor 4- Warning
<b>{enable   disable } }</b>	Enable: turn on function Disable: turn off function

**【 Example 】**

**Example 1:** Disable level 4 alarm output.

```
OLT(config)#alarm output alarmlevel 4 disable
OLT(config)#
```

## 23.12. Enable or Disable All Alarms Output

<b>Command</b>	OLT(config)# <b>alarm output all {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is enable or disable all alarm output. When state is "enable", permitting all alarms reporting to EMS. When state is "disable", denying all alarms reporting to EMS.
<b>{enable   disable }</b>	Enable: turn on function Disable: turn off function

**【 Example 】**

**Example 1:** Disable all alarms output.

```
OLT(config)#alarm output all disable
OLT(config)#
```

## 23.13. Enable or Disable Detail Alarm Output

<b>Command</b>	OLT(config)# <b>alarm output detail {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to turn on or off alarm detail input function. When state is "on", outputting detail alarm information. When state is "off", outputting simple alarm information.
<b>{enable   disable }</b>	on: enable off: disable

**【 Example 】**

**Example 1:** Turn off alarm output detail information function.

```
OLT(config)#alarm output detail disable
OLT(config)#
```

## 23.14. Show Specified Active Alarm Record

<b>Command</b>	OLT(config)# <b>show alarm active alarmid &lt;alarm-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is use to view the specified active alarm record.

<alarm-id>	Alarm-ID,the value range is 1-4294967294.
------------	---

**【Example】**

**Example 1:** View active alarm record of alarm-id 204.

<pre> OLT(config)#show alarm active alarmid 204 ALARM 15 Major 204 2000-01-02 02:22:51 ALARM NAME:pon port link down INSTANCE:PON FrameID:0,SlotID:0,PortID:3 REPEAT TIME:1 FIRST OCCUR:2000-01-02 02:22:51 LAST OCCUR:2000-01-02 02:22:51 DESCRIPTION: total number:1 OLT(config)# </pre>
--

### 23.15. Show Active Alarm Logs by Specified Level

<b>Command</b>	OLT(config)# <b>show alarm active alarmlevel &lt;1-4&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view active alarm logs of the specified level.
<b>&lt;1-4&gt;</b>	1- Critical 2- major 3- minor 4- warning

**【Example】**

**Example 1:** View active alarm logs of level 2.

<pre> OLT(config)#show alarm active alarmlevel 2 ALARM 15 Major 204 2000-01-02 02:22:51 ALARM NAME:pon port link down INSTANCE:PON FrameID:0,SlotID:0,PortID:3 REPEAT TIME:1 FIRST OCCUR:2000-01-02 02:22:51 LAST OCCUR:2000-01-02 02:22:51 DESCRIPTION: total number:1 OLT(config)# </pre>
---

### 23.16. Show Active Alarm Logs by Specified Board

<b>Command</b>	OLT(config)# <b>show alarm active alarmparameter board &lt;F/S&gt;</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to view active alarm logs of the specified board.
<b>&lt;F/S&gt;</b>	Card slot number,the value is 0/0.

**【Example】**

**Example 1:** View active alarm logs of board 0/0.

```
OLT(config)#show alarm active alarmparameter board 0/0
ALARM 15 Major 204 2000-01-02 02:22:51
ALARM NAME:pon port link down
INSTANCE:PON FrameID:0,SlotID:0,PortID:3
REPEAT TIME:1
FIRST OCCUR:2000-01-02 02:22:51
LAST OCCUR:2000-01-02 02:22:51
DESCRIPTION:
total number:1
OLT(config)#
```

## 23.17. Show Active Alarm Logs by Specified GE Port

<b>Command</b>	OLT(config)# <b>show alarm active alarmparameter ge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is use to view active alarm logs of the specified GE port.
<b>&lt;F/S/P&gt;</b>	GE port number,the value range is 0/0/1–0/0/8.

**【Example】**

**Example 1:** View active alarm logs of ge8 port.

```
OLT(config)#show alarm active alarmparameter ge 0/0/8
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME:sni port link down
INSTANCE:GE FrameID:0,SlotID:0,PortID:8
REPEAT TIME:1
FIRST OCCUR:2000-01-02 02:48:48
LAST OCCUR:2000-01-02 02:48:48
DESCRIPTION:
total number:1
OLT(config)#
```

## 23.18. Show Active Alarm Logs by Specified PON Port

<b>Command</b>	OLT(config)# <b>show alarm active alarmparameter pon &lt;F/S/P&gt;</b>
----------------	--



<b>View</b>	Config view
<b>Description</b>	This command is used to view active alarm logs of the specified PON port.
<b>&lt;F/S/P&gt;</b>	Pon port number,the value range is 0/0/1–0/0/16.

**【Example】**

**Example 1:** View active alarm logs of pon 3 port

```
OLT(config)#show alarm active alarmparameter pon 0/0/3
ALARM 15 Major 204 2000-01-02 02:22:51
ALARM NAME:pon port link down
INSTANCE:PON FrameID:0,SlotID:0,PortID:3
REPEAT TIME:1
FIRST OCCUR:2000-01-02 02:22:51
LAST OCCUR:2000-01-02 02:22:51
DESCRIPTION:
total number:1
OLT(config)#
```

## 23.19. Show Active Alarm Logs by Specified XGE Port

<b>Command</b>	OLT(config)# <b>show alarm active alarmparameter xge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view active alarm logs of the specified XGE port.
<b>&lt;F/S/P&gt;</b>	Card slot number,the value range is 0/0/1–0/0/2.

**【Example】**

**Example 1:** View active alarm logs of xge1 port.

```
OLT(config)#show alarm active alarmparameter xge 0/0/1
ALARM 26 Critical 131082 2000-01-02 04:18:33
ALARM NAME:The sni port is unplugged
INSTANCE:XGE FrameID:0,SlotID:0,PortID:1
REPEAT TIME:1
FIRST OCCUR:2000-01-02 04:18:33
LAST OCCUR:2000-01-02 04:18:33
DESCRIPTION:
total number:1
OLT(config)#
```

## 23.20. Show All Active Alarm Log

<b>Command</b>	OLT(config)# <b>show alarm active all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view all alarm active logs.

**【 Example 】**

**Example 1:** View all alarm active logs.

```
OLT(config)#show alarm active all
ALARM 28 Critical 131082 2000-01-02 04:18:53
ALARM NAME:The sni port is unplugged
INSTANCE:XGE FrameID:0,SlotID:0,PortID:2
DESCRIPTION:
ALARM 26 Critical 131082 2000-01-02 04:18:33
ALARM NAME:The sni port is unplugged
INSTANCE:XGE FrameID:0,SlotID:0,PortID:1
DESCRIPTION:
ALARM 23 Critical 203 2000-01-02 04:17:40
ALARM NAME:sni port link down
INSTANCE:GE FrameID:0,SlotID:0,PortID:5
DESCRIPTION:
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME:sni port link down
INSTANCE:GE FrameID:0,SlotID:0,PortID:8
DESCRIPTION:
ALARM 15 Major 204 2000-01-02 02:22:51
ALARM NAME:pon port link down
INSTANCE:PON FrameID:0,SlotID:0,PortID:3
DESCRIPTION:
total number:5
OLT(config)#
```

## 23.21. Show Specified Alarm History Record

<b>Command</b>	OLT(config)# <b>show alarm history alarmid&lt;alarm-id&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the specified alarm history records
<b>&lt;alarm-id&gt;</b>	Alarm ID,the value range is 1-4294967294.

**【 Example 】**

**Example 1:** View alarm history records of alarm-ID 204.

```
OLT(config)#show alarm history alarmid 204
ALARM 35 Cleared 204 2000-01-02 07:05:07
ALARM NAME:pon port link up
```

```

INSTANCE:PON FrameID:0,SlotID:0,PortID:1
DESCRIPTION:
ALARM 34 Major 204 2000-01-02 07:02:33
ALARM NAME:pon port link down
INSTANCE:PON FrameID:0,SlotID:0,PortID:1
DESCRIPTION:
ALARM 32 Cleared 204 2000-01-02 07:01:39
ALARM NAME:pon port link up
INSTANCE:PON FrameID:0,SlotID:0,PortID:1
DESCRIPTION:

```

### 23.22. Show Alarm History Record by Specified Level

<b>Command</b>	OLT(config)# <a href="#">show alarm history alarmlevel&lt;1-4&gt;</a>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm history records of the specified level.
<b>&lt;1-4&gt;</b>	1- Critical 2- major 3- minor 4- warning

**【 Example 】**

**Example 1:** View alarm history records of level 4.

```

OLT(config)#show alarm history alarmlevel 4
ALARM 38 Cleared 401 2000-01-02 07:07:06
ALARM NAME:uni link up
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 37 Warning 401 2000-01-02 07:06:57
ALARM NAME:uni link down
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 30 Cleared 401 2000-01-02 05:57:49
ALARM NAME:uni link up
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:3,SlotID:0,Uni:1
DESCRIPTION:

```

### 23.23. Show Alarm History Record by Specified Board

<b>Command</b>	OLT(config)# <a href="#">show alarm history alarmparameter board &lt;F/S&gt;</a>
<b>View</b>	Config view

<b>Description</b>	This command is used to view alarm history records of the specified board.
<b>&lt;F/S&gt;</b>	Card slot number,the value is 0/0.

**【 Example 】**

**Example 1:** View alarm history records of board 0/0.

```
OLT(config)#show alarm history alarmparameter board 0/0
ALARM 38 Cleared 401 2000-01-02 07:07:06
ALARM NAME:uni link up
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 37 Warning 401 2000-01-02 07:06:57
ALARM NAME:uni link down
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 36 Critical 403 2000-01-02 07:05:47
ALARM NAME:Onu ethernet port autoNegotiation failure
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5,SlotID:0,Uni:1
DESCRIPTION:
```

## 23.24. Show Alarm History Record by Specified GE Port

<b>Command</b>	OLT(config)# <b>show alarm history alarmparameter ge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm history records of the specified GE port
<b>&lt;F/S/P&gt;</b>	GE port number,the value range is 0/0/1–0/0/8.

**【 Example 】**

**Example 1:** View alarm history records of ge8 port.

```
OLT(config)#show alarm history alarmparameter ge 0/0/8
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME:sni port link down
INSTANCE:GE FrameID:0,SlotID:0,PortID:8
DESCRIPTION:
ALARM 17 Cleared 203 2000-01-02 02:48:05
ALARM NAME:sni port link up
INSTANCE:GE FrameID:0,SlotID:0,PortID:8
DESCRIPTION:
```

## 23.25. Show Alarm History Record by Specified PON Port

<b>Command</b>	OLT(config)# <b>show alarm history alarmparameter pon</b> <F/S/P>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm history records of the specified PON port.
<F/S/P>	Pon port number,the value range is 0/0/1–0/0/16.

#### 【Example】

**Example 1:** View alarm history records of pon1 port.

```
OLT(config)#show alarm history alarmparameter pon 0/0/1
ALARM 40 Cleared 401 2000-01-02 23:42:34
ALARM NAME:uni link up
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 39 Warning 401 2000-01-02 23:42:31
ALARM NAME:uni link down
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
```

## 23.26. Show Alarm History Record by Specified XGE Port

<b>Command</b>	OLT(config)# <b>show alarm history alarmparameter xge</b> <F/S/P>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm history records of the specified XGE port.
<F/S/P>	Card slot number,the value range is 0/0/1–0/0/2.

#### 【Example】

**Example 1:** View alarm history records of xge1 port.

```
OLT(config)#show alarm history alarmparameter xge 0/0/1
ALARM 26 Critical 131082 2000-01-02 04:18:33
ALARM NAME:The sni port is unplugged
INSTANCE:XGE FrameID:0,SlotID:0,PortID:1
DESCRIPTION:
ALARM 25 Cleared 131082 2000-01-02 04:18:15
ALARM NAME:The sni port is plugged
INSTANCE:XGE FrameID:0,SlotID:0,PortID:1
DESCRIPTION:
```

## 23.27. Show All Alarm History Record

<b>Command</b>	OLT(config)# <b>show alarm history all</b>
<b>View</b>	Config view
<b>Description</b>	This command is use to view all alarm history records.

**【 Example 】**

**Example 1:** View all alarm history records.

```
OLT(config)#show alarm history all
ALARM 40 Cleared 401 2000-01-02 23:42:34
ALARM NAME:uni link up
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
ALARM 39 Warning 401 2000-01-02 23:42:31
ALARM NAME:uni link down
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4,SlotID:0,Uni:1
DESCRIPTION:
```

## 23.28. Show Alarm Jitter-proof Interval Time

<b>Command</b>	OLT(config)# <b>show alarm jitter</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm jitter-proof interval.

**【 Example 】**

**Example 1:** View OLT's alarm jitter-proof interval

```
OLT(config)#show alarm jitter
Jitter-Interval:5s
OLT(config)#
```

## 23.29. Show Alarm Basic Information

<b>Command</b>	OLT(config)# <b>show alarm list</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view alarm basic information.

**【 Example 】**

**Example 1:** View OLT's alarm basic information.

```
OLT(config)#show alarm list
-----
AlarmId Output Level Def Level Name
102 Yes Major Major The board reset
104 Yes Warning Warning The temperature is abnormal
```

105 Yes Major Major The fan is abnormal  
107 Yes Major Major The device power fault  
201 Yes Critical Critical Pon port loopback link  
202 Yes Major Major Pon los alarm raise  
203 Yes Critical Critical sni port link down  
204 Yes Major Major pon port link down  
205 Yes Warning Warning The number of register llid is exceeded  
206 Yes Major Major long luminescence  
301 Yes Major Major onu critical event  
302 Yes Warning Warning onu exchange key fails  
303 Yes Critical Critical onu oam timeout  
304 Yes Major Major onu mac auth fails  
305 Yes Minor Minor the RX received power of the epon optical port is lower than the lower threshold  
306 Yes Minor Minor the RX received power of the epon optical port is higher than the higher threshold  
307 Yes Minor Minor the TX output power of the epon optical port is lower than the lower threshold  
308 Yes Minor Minor the TX output power of the epon optical port is higher than the higher threshold  
310 Yes Warning Warning onu power down  
311 Yes Minor Minor the downstream BER is higher than threshold  
312 Yes Minor Minor the downstream FER is higher than threshold  
313 Yes Minor Minor the upstream BER is higher than threshold  
314 Yes Minor Minor the upstream FER is higher than threshold  
315 Yes Major Major The performance statistics upper crossed  
316 Yes Major Major The performance statistics lower crossed  
317 Yes Minor Minor the temperature of the optical module is higher than the higher threshold  
318 Yes Minor Minor the temperature of the optical module is lower than the lower threshold  
319 Yes Minor Minor the voltage of the optical module is higher than the higher threshold  
320 Yes Minor Minor the voltage of the optical module is lower than the lower threshold  
321 Yes Warning Warning onu optical down  
401 Yes Warning Warning uni link down  
402 Yes Minor Minor loopback of onu port is detected  
403 Yes Critical Critical Onu ethernet port autoNegotiation failure  
131082 Yes Critical Critical The sni port is unplugged  
131083 Yes Critical Critical Sni port loopback link  
-----  
OLT(config)#

## 24. OLT Event Management and Query

### 24.1. Config Event Level

<b>Command</b>	OLT(config)# <b>event eventlevel &lt;event-id&gt; &lt;0-4&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure the specified event level.
<b>&lt;event-id&gt;</b>	Event ID,only on behalf of one event alarm
<b>&lt;0-4&gt;</b>	0- Default 1- critical 2- major 3- Minor 4- Warning

#### 【 Example 】

**Example 1:** Configure event level 3 for event ID 10001

```
OLT(config)#event eventlevel 10001 3
OLT(config)#
```

### 24.2. Enable or Disable All Events Output

<b>Command</b>	OLT(config)# <b>event output all {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to configure all event output in the CLI.When state is“enable”,all events can output in the CLI,or it can't be
<b>{enable   disable } }</b>	Enable:turn on function Disable:turn off function

#### 【 Example 】

**Example 1:** Turn off all events output function.

```
OLT(config)#event output all disable
OLT(config)#
```

### 24.3. Enable or Disable Detail Event Output

<b>Command</b>	OLT(config)# <b>event output detail {on   off}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to set the switch of event output detail



	function.When state is“on”,events can all output detail in the CLI.When state is“off”,thus outputting simple event information.
<b>{on off}</b>	on: enable off: disable

**【 Example 】**

**Example 1:** Turn on event output detail function.

```
OLT(config)#event output detail on
OLT(config)#
```

## 24.4. Enable or Disable Specified Event Output

<b>Command</b>	OLT(config)# <b>event output eventid &lt;eventid&gt; {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to permit or deny the output of the specified event.When state is“enable”,permitting the output of the specified event in the terminal;when state is“disable”,denying the output of the specified event in the terminal.
<b>&lt;eventid&gt;</b>	Event ID,the value range is 1-4294967294.
<b>{enable   disable } }</b>	Enable:turn on function Disable:turn off function

**【 Example 】**

**Example 1:** Permit event 10001 output in the terminal.

```
OLT(config)#event output eventid 10001 enable
OLT(config)#
```

## 24.5. Enable or Disable Specified Level Event Output

<b>Command</b>	OLT(config)# <b>event output eventlevel &lt;eventlevel&gt; {enable   disable}</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to permit or deny the output of the specified level event.When state is“enable”,permitting the specified level event output in the terminal;when state is“disable”,denying the specified level event output in the terminal.
<b>&lt;eventlevel&gt;</b>	1- Critical 2- Major 3- Minor 4- Warning

{enable disable }	Enable: turn on function Disable: turn off function
----------------------	--

**【Example】**

**Example 1:** Permit the event output of the level 3.

```
OLT(config)#event output eventlevel 3 enable
OLT(config)#
```

## 24.6. Show All Event History Record

<b>Command</b>	OLT(config)# <b>show event history all</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view all event history records.

**【Example】**

**Example 1:** View all event history event records.

```
OLT(config)#show event history all
EVENT 13 Warning 13002 2000-01-02 07:05:56
EVENT NAME:onu is offline
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5
EVENT 12 Warning 13001 2000-01-02 07:05:43
EVENT NAME:onu is online
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5
```

## 24.7. Show Specified Event History Record

<b>Command</b>	OLT(config)# <b>show event history eventid &lt;eventid&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view history record of the specified event.
<b>&lt;eventid&gt;</b>	Event ID,the value range is 1-4294967294.

**【Example】**

**Example 1:** View history record of event 13002.

```
OLT(config)#show event history eventid 13002
EVENT 14 Warning 13002 2000-01-03 05:27:27
EVENT NAME:onu is offline
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4
DESCRIPTION:E067B312118A00012770
EVENT 13 Warning 13002 2000-01-02 07:05:56
EVENT NAME:onu is offline
INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5
DESCRIPTION:E067B300000100012770
```

## 24.8. Show Specified Level Event History Record

<b>Command</b>	OLT(config)# <b>show event history eventlevel &lt;eventlevel&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view history record of the specified level event.
<b>&lt;eventlevel&gt;</b>	1- Critical 2- Major 3- Minor 4- Warning

### 【Example】

**Example 1:** View history records of event level 4.

<pre>OLT(config)#show event history event level 4 EVENT 14 Warning 13002 2000-01-03 05:27:27 EVENT NAME:onu is offline INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4 DESCRIPTION:E067B312118A00012770 EVENT 13 Warning 13002 2000-01-02 07:05:56 EVENT NAME:onu is offline INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5 DESCRIPTION:E067B300000100012770</pre>
---

## 24.9. Show Event History Record by Specified Board

<b>Command</b>	OLT(config)# <b>show event history eventparameter board &lt;F/S&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the history records of the specified board
<b>&lt;F/S&gt;</b>	Board number,the value is 0/0.

### 【Example】

**Example 1:** View the event history records of the specified board 0/0.

<pre>OLT(config)#show event history eventparameter board 0/0 EVENT 14 Warning 13002 2000-01-03 05:27:27 EVENT NAME:onu is offline INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:4 DESCRIPTION:E067B312118A00012770 EVENT 13 Warning 13002 2000-01-02 07:05:56 EVENT NAME:onu is offline INSTANCE:FrameID:0,SlotID:0,PortID:1,OnuID:5</pre>
---

DESCRIPTION:E067B300000100012770

## 24.10. Show Event History Record by Specified GE Port

<b>Command</b>	OLT(config)# <b>show event history eventparameter ge &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the event history record of the specified GE port.
<b>&lt;F/S/P&gt;</b>	GE port number,the value range is 0/0/1–0/0/8.

### 【Example】

**Example 1:** View the event history record of the specified ge8 port.

```
OLT(config)#show event history eventparameter ge 0/0/8
total number:0
OLT(config)#
```

## 24.11. Show Event History Record by Specified PON Port

<b>Command</b>	OLT(config)# <b>show event history eventparameter pon &lt;F/S/P&gt;</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the event history records of the specified PON port
<b>&lt;F/S/P&gt;</b>	Pon port number,the value range is 0/0/1–0/0/16.

### 【Example】

**Example 1:** View the event history records of the pon1 port.

```
OLT(config)#show event history eventparameter pon 0/0/3
EVENT 7 Warning 13002 2000-01-02 02:22:51
EVENT NAME:onu is offline
INSTANCE:FrameID:0,SlotID:0,PortID:3,OnuID:2
DESCRIPTION:E067B301010100012770
EVENT 6 Warning 13001 2000-01-02 02:22:40
EVENT NAME:onu is online
INSTANCE:FrameID:0,SlotID:0,PortID:3,OnuID:2
DESCRIPTION:E067B301010100012708
```

## 24.12. Show Event History Record by Specified XGE Port

<b>Command</b>	OLT(config)# <b>show event history eventparameter xge&lt;F/S/P&gt;</b>
<b>View</b>	Config view

<b>Description</b>	This command is used to view the event history records of the specified XGE port
<b>&lt;F/S/P&gt;</b>	Slot number,the value range is 0/0/1-0/0/2.

**【Example】**

**Example 1:** View the event history records of xge1 port.

```
OLT(config)#show event history eventparameter xge 0/0/2
total number:0
OLT(config)#
```

## 24.13. Show Event Basic Information

<b>Command</b>	OLT(config)# <b>show event list</b>
<b>View</b>	Config view
<b>Description</b>	This command is used to view the basic information of the event.

**【Example】**

**Example 1:** view the basic information of the event

```
OLT(config)#show event list
-----
EventId Output Level Def Level Name
10001 Yes Minor Warning The device reset
13001 Yes Warning Warning onu is online
13002 Yes Warning Warning onu is offline
-----
OLT(config)#
```

## 25. Device Diagnostic Management

### 25.1. Ping Diagnostic Test

<b>Command</b>	OLT(config)# <b>ping {&lt;destination-ip&gt; &lt;hostname&gt;}</b>
<b>View</b>	Any view
<b>Description</b>	This command is used for testing network accessibility between device and target host.
<b>&lt;destination-ip&gt;</b>	Destination IP address.There are five kinds of IP address,user can choose suitable IP address according to factual circumstance.Host IP address is not all 0 or 1,format for x.x.x.x.
<b>&lt;hostname&gt;</b>	Destination hostname

**【Example】**

**Example 1:** Ping destination IP address 192.168.5.50

```
OLT(config)#ping 192.168.5.50
PING 192.168.5.50(192.168.5.50):56 data bytes
64 bytes from 192.168.5.50:seq=0 ttl=64 time=0.449 ms
64 bytes from 192.168.5.50:seq=1 ttl=64 time=0.379 ms
64 bytes from 192.168.5.50:seq=2 ttl=64 time=0.365 ms
64 bytes from 192.168.5.50:seq=3 ttl=64 time=0.612 ms
---192.168.5.50 ping statistics---
4 packets transmitted,4 packets received,0%packet loss
round-trip min/avg/max=0.365/0.451/0.612 ms
OLT(config)#
```

## 25.2 Traceroute Diagnostic Test

<b>Command</b>	OLT(config)# <b>traceroute</b> {<destination-ip> <hostname>} hops <hops-id> timeout <time-id> ttl <ttl-id>
<b>View</b>	Any view
<b>Description</b>	Through traceroute,you can know about data packet transmission path from this host to the other end host
<b>&lt;Destination-IP&gt;</b>	Destination IP address.There are five kinds of IP address,user can choose suitable IP address according to factual circumstance.Host IP address is not all 0 or 1,format for x.x.x.x.
<b>&lt;Hostname&gt;</b>	Destination hostname
<b>&lt;hops-id&gt;</b>	Passed max router numbers that data messages arrive final host
<b>&lt;time-id&gt;</b>	Wait for the time(unit millisecond)specified by timeout for each response
<b>&lt;ttl-id&gt;</b>	Data packet Time-To-Live

**【Example】**

**Example 1:** traceroute destination IP address 192.168.5.50

```
OLT(config)#traceroute 192.168.5.50
traceroute to 192.168.5.50(192.168.5.50),30 hops max,38 byte packets
1 192.168.5.50 0.954 ms 0.473 ms 0.189 ms
OLT(config)#
```

## Appendix 1

The processing of messages in different VLAN modes is as follows:

VLAN mode	Actions(in the inbound direction)		Actions(in the outbound direction)
	Untagged frame	Tagged frame	
Access	Tag the frame with the native VLAN tag.	<ul style="list-style-type: none"> <li>Drop the frame if its VLAN id is the same as the native VLAN id.</li> <li>Drop the frame if its VLAN id is different from the native VLAN id</li> </ul>	Remove the native VLAN tag and send the frame
Trunk	Tag the frame with native VLAN tag.	<ul style="list-style-type: none"> <li>Receive the frame if its VLAN is carried on the port</li> <li>Drop the frame if its VLAN is not carried on the port.</li> </ul>	<ul style="list-style-type: none"> <li>Send the frame and removing the tag if the frame is the same as native VLAN id.</li> <li>Send the frame without removing the tag if its VLAN is carried on the port but is different from the native VLAN.</li> </ul>
Hybrid			Send the frame if its VLAN is carried on the port.The frame is sent with the VLAN tag removed or intact depending on your configuration with the VLAN hybrid command.

## Concluding Remarks

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