
GPON OLT Products User Manual

New 8Port/16Port OLT

---Command Line Operation

Version: V1.1

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About This Manual

This manual is applicable to our company New 8Port/16Port GPON OLT products cli command operation, Is the user through cli command config GPON OLT equipment should read the information before guidelines.

The related documents for new GPON OLT device are:

《New 8Port/16Port OLT User Manual-Device Install Guide》

《New 8Port/16Port OLT User Manual-Quick Configuration Guide》

《New 8Port/16Port OLT User Manual-EMS Configuration Guide》

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1. Read Instructions

Document Scope

Reading Object	Product	Products Software Version	
Our company Employees, FTTX Operation&Maintenance Engineer, Customer's Technical Engineer	GPON OLT (New 8Port/16Port OLT)	V1.0.X	
Compiling Department	Product Management Center Technical Support Department	Document Version	V1.1

Revision History

Date	Version	Description	Author
2018-7-23	V1.1	New GPON OLT (8Port /16Port) Command Line Operation First edition	Technical Support Department

Conventions for Command Line

Format	Specification
Boldface	Key words of command line will be in boldface(unchanged)
Italics	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

n2>	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 new 8Port or 16Port GPON OLT,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.
- GPON new 8port/16port OLT are Pizza-Box OLT, only have one card, so,if we want to enter PON mode,need input interface gpon 0/0

2. Command Line Interface View Introduce

View and view switching

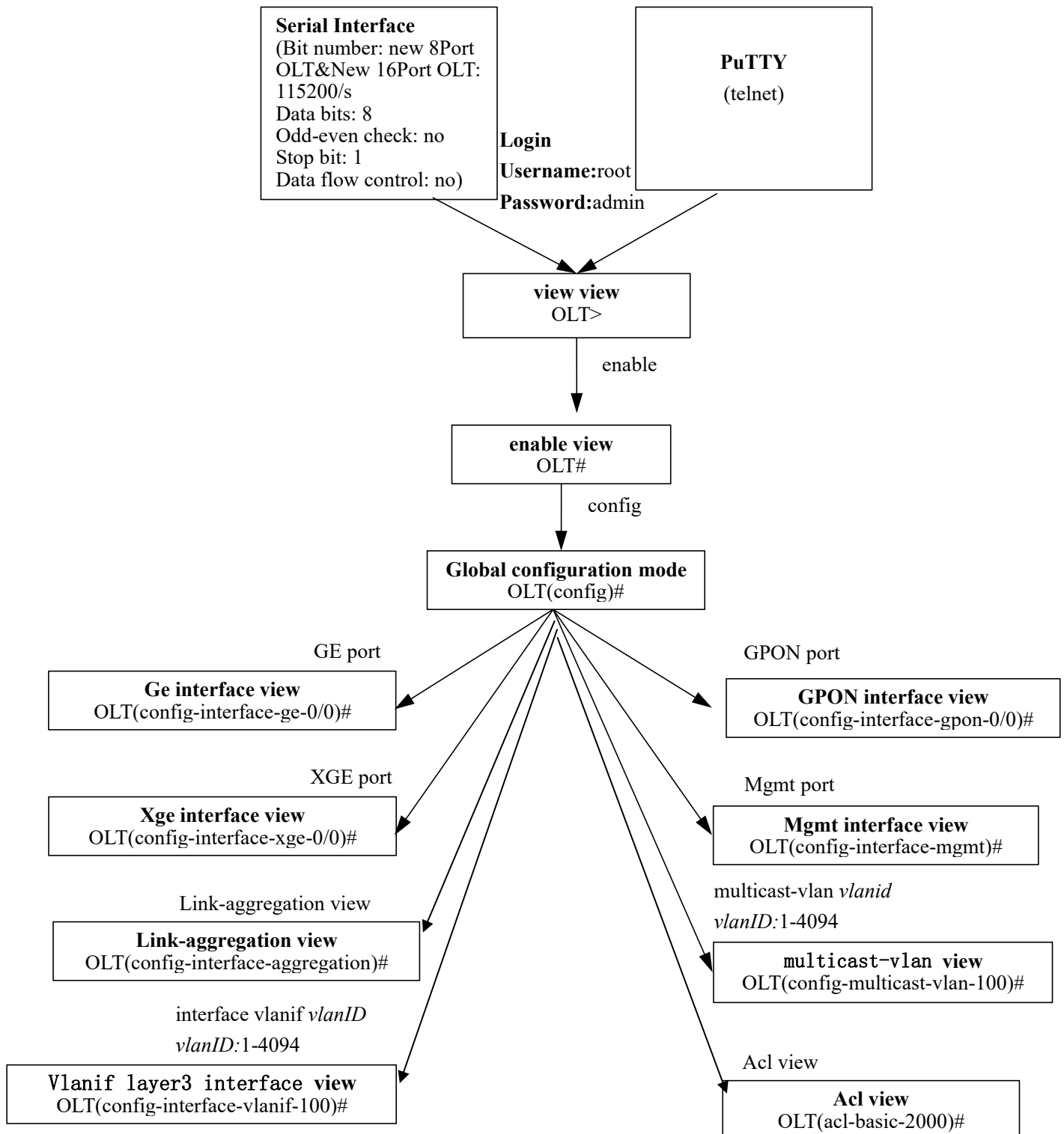
Specification:This command line environment includes several views as follows:

- **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)#
- **GPON interface view :** refers to GPON interface view/mode user will enter after inputting interface GPON 0/0 in config view.This view shows like:OLT(config-interface-gpon-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 inputtinginterface link-aggregationin config view.This view shows like:OLT(config-interface-aggregation)#

2.1.Command Line View Overview



2.1.1. Enter Enable View

Command	OLT> enable
Description	Enter enable view from view mode

【Example】

Example 1: Enter enable view from view mode

OLT>enable OLT#

2.1.2. Enter Config View

Command	OLT# config
Description	Enter config view from enable mode

【Example】

Example 1: Enter enable view from view mode.

OLT#config OLT(config)#

2.1.3. Enter Interface View

Command	OLT(config)# interface gpon <FrameID/SlotID> OLT(config)# interface ge <FrameID/SlotID> OLT(config)# interface link-aggregation OLT(config)# interface mgmt OLT(config)# interface vlanif <VLAN ID> OLT(config)# interface xge <FrameID/SlotID>
view	Config view
Description	Enter gpon/ge/link-aggregation/mgmt/vlanif/xge view from config mode
<VLAN ID>	VLAN ID value,the range is 1-4094
<FrameID/SlotID>	Device frame id/slot id,default as 0/0

【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 gpon view from config mode

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

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

2.1.4. Enter ACL View

Command	OLT(config)# acl <acl ID>
view	Config view
Description	Enter acl view from config mode
<acl ID>	<2000-2999>basic acl <3000-4999>advanced acl <5000-5999>link 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 link acl view from config mode

```
OLT(config)#acl 5000
```

```
OLT(acl-pon-5000)#
```

2.1.5. Enter Multicast-vlan View

Command	OLT(config)# multicast-vlan <multicast-vlan ID>
view	Config view
Description	Enter multicast-vlan view from config mode
<multicast-vlan ID>	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

Command	OLT(config)# exit
Description	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

3.1.1.Upgrade OLT software by FTP server

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

<user-password> >	The user password which had set in ftp server
<file-name>	The name of the OLT software to be downloaded.

【Example】

Example 1: Upgrade olt software,its file name is New16Port_Image_V1.0.0_180530_192.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 New16Port
_Image_V1.0.0_180530_192.img
Broadcast message from root:
Upgrade is in process.
File[New16Port_Image_V1.0.0_180530_192.img]download.....OK
File[New16Port_Image_V1.0.0_180530_192.img]upgrade.....OK
```

3.1.2.Upgrade OLT software by TFTP server

Command	OLT(config)# load packetfile tftp <tftp-server-ip> <file-name>
view	Enable view、 config view
Description	This command is used to upgrade olt software version , it should be use in root account.
<tftp-server-ip>	The ip address of tftp server
<file-name>	The name of the OLT software to be downloaded.

【Example】

Example 1: Upgrade olt software,its file name is New16Port_Image_V1.0.0_180530_192.img ,the ip address of tftp server is 192.168.1.16. After the olt displays“upgrade OK”,reboot the olt.

```
OLT(config)#load packetfile tftp 192.168.1.16 New16Port
_Image_V1.0.0_180530_192.img
Broadcast message from root:
Upgrade is in process.
File[New16Port_Image_V1.0.0_180530_1928.img]download.....OK
File[New16Port_Image_V1.0.0_180530_1928.img]upgrade.....OK
```

3.2.View OLT Software and Hardware Version

Command	OLT(config)# show version
----------------	----------------------------------

view	enable view or config view
Description	This command can check the OLT hardware and software version information.

【Example】

Example 1: Check OLT firmware version.

```
OLT(config)# show version
Hardware version : V3.0
Firmware version : V1.0.0 (Wed, 30 May 2018 19:25:46 +0800)

OLT(config)#
```

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

Command	OLT(config)# show progress load
view	Enable view,config view
Description	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 Protocal   : FTP
FTP Server          : 0.0.0.0
FTP User Name       :
FTP Password        :
Transmit FileName   :
Transmit Action     : Unknown
Transmit Status     : Idle
Transmit Progress   : 0%
-----

OLT(config)#
```

4. OLT Device Management

4.1.OLT Reboot

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

【 Example 】

Example 1: reboot OLT

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

4.2.Initialize OLT

Command	OLT(config)# erase saved-config OLT(config)# reboot
View	Config view
Description	This two commands is used to restore OLT to the factory. Only the root user group has this permission.

【 Example 】

Example 1: Initialize OLT。

<pre>OLT(config)# 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): OLT(config)# reboot Please check whether data has saved, the unsaved data will lose if reboot system. Are you sure to reboot system? (y/n):</pre>
--

4.3.Config OLT Outband Management IP

Command	OLT(config-interface-mgmt)# ip address <ip-address> <ip-address-mask> <length of mask>
View	Mgmt view
Description	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 192.168.5.68,the length of subnet mask is 24.

```
OLT(config-interface-mgmt)#ip address 192.168.5.68 24
OLT(config-interface-mgmt)#
```

4.4.Config Vlanif Interface IP Address(Inband)

Command	OLT(config-interface-vlanif-100)# ip address <ip-address> {<ip-address-mask> <length of mask>}
view	Vlanif view
Description	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-layer 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)#
```

4.5.Show MGMT IP Address (Outband)

Command	OLT(config)# show interface mgmt
view	Config view
Description	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 192.168.5.68, netmask 255.255.255.0
Hardware address is E0:67:B3:00:00:A1
    Recive 278925 packets, 23534482 bytes
    Transmit 156924 packets, 25937850 bytes

OLT(config)#
```

4.6.Show Vlanif IP Address (Inband)

Command	OLT(config)# show interface vlanif <vlan-interface-number>
view	Config view
Description	This command is used to query the ip address,mac address,the Maximum Transmit Unit and etc info of vlanif interface.
<vlan-interface-number>	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 is link down
The Maximum Transmit Unit is 1500 bytes
```

```

Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
  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 vlanif1 is link up
The Maximum Transmit Unit is 1500 bytes
Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
  Recive 0 packets, 0 bytes
  Transmit 0 packets, 0 bytes

Description : Inband interface vlanif100 is link down
The Maximum Transmit Unit is 1500 bytes
Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
  Recive 0 packets, 0 bytes
  Transmit 0 packets, 0 bytes

Description : Inband interface vlanif2000 is link down
The Maximum Transmit Unit is 1500 bytes
Internet Address is 192.168.6.20, netmask 255.255.255.0
Hardware address is E0:67:B3:00:00:A2
  Recive 0 packets, 0 bytes
  Transmit 0 packets, 0 bytes

OLT(config)#

```

4.7.Show OLT Detail Information

Command	OLT(config)# show device
view	Enable view,config view
Description	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          : 16PONOLT
Device MAC address    : E0:67:B3:00:00:A1
Device serial-number  : AF2101-160100001
Device vendor name    : XPON
-----
OLT(config)#

```

4.8.Config OLT User Login Timeout Time

Command	OLT(config)# exec-timeout <time>
view	enable view,config view
Description	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.
<time>	The time of timeout, range for 1-36000, its unit is second.

【 Example 】

Example 1: Config the timeout time as 36000s.

```

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

```

4.9.Show OLT User Login Timeout Time

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

【 Example 】

Example 1: Show the user login timeout time

```

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

```

4.10.Logout System

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

【Example】

Example 1: Logout the system.

```
OLT#logout

>>User name:
```

4.11.Exit OLT Current View Mode

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

【Example】

Example 1: Exit config view to view mode

```
OLT(config)#end

OLT>
```

4.12.Config OLT DNS server IP Address

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

【Example】

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

```
OLT(config)#dns server 192.168.5.1

OLT(config)#
```

4.13.Delete OLT DNS Server IP Address

Command	OLT(config)# no dns server <ip-addr>
view	Config view
Description	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.
<ip-addr>	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)#
```

4.14.Show OLT DNS Server IP Address

Command	OLT(config)# show dns server
view	Config view
Description	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)
```

4.15.Config OLT Hostname

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

【 Example 】

Example 1: Config the olt sysname as test.

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

5. OLT Status Monitor

5.1.Show OLT Fan Working Status

Command	OLT(config)# show fan
view	enable view, config view
Description	This command is used to show the working status of fan.

【Example】

Example 1: Show olt fan working status

```
OLT(config)# show fan  
-----  
FAN[1] status: Normal      (6720RPM)  
FAN[2] status: Normal      (6840RPM)  
FAN[3] status: Normal      (6660RPM)  
FAN[4] status: Normal      (6840RPM)  
-----  
  
OLT(config)#
```

5.2.Show OLT Working Temperature

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

【Example】

Example 1: Show olt real time working temperature

```
OLT#show temperature  
The temperature of the board:45.0(C)  
  
OLT#
```

5.3.Show OLT Memory Usage

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

【Example】

Example 1: Show the memory usage of OLT.

```
OLT(config)# show memory
-----
Total memory   : 1012MB
Free memory    : 745MB
Utilization    : 27%
-----
OLT(config)#
```

5.4.Config OLT System Time

Command	OLT(config)# time <time>
view	config view
Description	This command is used to Set the system time of olt
<time>	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

Command	OLT(config)# show time
view	enable view, config view
Description	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

Command	OLT(config)# show uptime
view	enable view, config view
Description	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 Network Time Server(NTP)

Command	OLT(config)# ntp-service unicast-service {<ip-addr> <domain name>}
view	config view
Description	This command is used to set the ip address of the NTP server.
<ip-addr>	Ip address of NTP server,format for X.X.X.X
<domain name>	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 OLT Network Time Server(NTP)

Command	OLT(config)# no ntp-service unicast-service {<ip-addr> <domain name>}
view	Config view

Description	This command is used to Delete the NTP server
<ip-addr>	IP address of NTP server,format for X.X.X.X
<domain name>	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

Command	OLT(config)# show ntp-service session
View	Config view
Description	This command is used to show the session info of the NTP server

【 Example 】

Example 1: Show the session info of the NTP server

```
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)#
```

5.10.Config OLT System Timezone

Command	OLT(config)# timezone gmt+ /gmt- <timezone>
View	Config view
Description	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.
<timezone>	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 olt system timezone as gmt+08:00

```
OLT(config)#timezone gmt+08:00

OLT(config)#
```

5.11.Show OLT System Current Timezone

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

【Example】

Example 1: Show olt system current timezone

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

OLT(config)#
```

5.12.Show OLT Local MAC Address Information

Command	OLT(config)# show location<mac-addr>
view	config view
Description	This command is used to show the local mac address info of the olt
<mac-addr>	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

Command	OLT(config)# show cpu
View	Config view
Description	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          : 20%
Load Average(1min)   : 8.03
Load Average(5min)   : 9.11
Load Average(15min)  : 9.18
-----
OLT(config)#
```

5.14.Show OLT History Input Command

Command	OLT(config)# show history
View	enable view,config view
Description	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
show ntp-service session
show ntp-service session
show cpu
OLT(config)#
```

6. OLT Configuration Manage

6.1.Backup OLT Configuration

6.1.1.Backup OLT Configuration by FTP Server

Command	OLT(config)# backup configuration ftp <server-ip-address> <user-name> <user-password> <filename>
view	enable view,config view
Description	Backup the config file of the olt
<server-ip-address>	IP address of the ftp server
<user-name>	ftp user name
<user-password>	ftp user password
<filename>	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, ftp server ip address is 192.168.1.16 .

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

OLT(config)#
```

6.1.2.Backup OLT Configuration by TFTP Server

Command	OLT(config)# backup configuration tftp <server-ip-address> <filename>
view	enable view,config view
Description	Backup the config file of the olt
<server-ip-address>	IP address of the tftp server

<filename>	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, set the backup file's name as config, tftp server ip address is 192.168.1.16.

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

OLT(config)#
```

6.2.Restore OLT Configuration

6.2.1.Restore OLT Configuration by FTP server

Command	OLT(config)# load configuration ftp <server-ip-address> <user-name> <user-password> <filename>
View	Enable view, config view
Description	Upload the configuration of the olt
<server-ip-address>	IP address of the ftp server
<user-name>	ftp user name
<user-password>	ftp user password
<filename>	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, ftp server IP address is 192.168.1.16, 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)#
```

6.2.2.Restore OLT Configuration by TFTP server

Command	OLT(config)# load configuration tftp <server-ip-address> <filename>
View	Enable view,config view
Description	Backup the configuration of the olt
<server-ip-address>	IP address of the tftp server
<filename>	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, set the file's name as config, tftp server ip address is 192.168.1.16.

```
OLT(config)#load configuration tftp 192.168.1.16 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

Command	OLT(config)# show current-config
View	Enable view,config view
Description	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

Command	OLT(config)# save
View	enable view,config view
Description	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

Command	OLT(config)# erase saved-config
View	Enable view,config view
Description	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

Command	OLT(config)# show saved-config
View	enable view,config view
Description	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 User Manage

7.1.Add OLT New Login Username and Password

Command	OLT(config)# user add <user-name> <user-password> {admin guest root}
View	Config view
Description	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

Command	OLT(config)# user delete <name>
View	Config view
Descripton	This command is used to delete the user.caution:the root user cannot be delete.
<name>	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

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

Command	OLT(config)# show user
View	Config view
Description	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

Command	OLT(config)# show client
View	Config view

Description	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.Kick-off Online User

Command	OLT(config)# client kick-off <client-id>
View	Config view
Description	This command is used to kick the other online user off
<client-id>	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

Command	OLT(config)# snmp-agent {enable disable}
View	config view
Description	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.
Enable disable	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

Command	OLT(config)# show snmp-agent status
View	Config view
Description	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 Read Community

Command	OLT(config)# snmp-agent community read <community-name>
View	Config view
Description	This command is used to config the read community name of SNMP
<community-name>	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

Command	OLT(config)# show snmp-agent community read
View	Config view
Description	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

Command	OLT(config)# snmp-agent community write <community-name>
View	Config view
Description	This command is used to config the write community name of SNMP
<community-name>	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

Command	OLT(config)# show snmp-agent community write
View	Config view
Description	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

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

Command	OLT(config)# snmp-agent group v3 <group-name> noauth {[notify-view <none all>] [read-view <none all>] [write-view <none all>]}
View	Config view
Description	This command is used to Set secure mode based SNMP agent group without authentication
<group-name>	Group name,it supports 1-32 characters
notify-view	Specifies the notification view corresponding to the group name.
read-view	Set the read-only view corresponding to the group name

write-view	Set the read/write view corresponding to group name
none	Mismatch view
all	Match all the view

【Example】

Example 1: 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

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

Command	OLT(config)#snmp-agent sys-info description <description>
----------------	---

View	Config view
Description	This command is used to configure SNMP agent system description info
<description>	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

Command	OLT(config)# snmp-agent sys-info location <location>
View	config view
Description	This command is used to configure SNMP agent system location info
<location>	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

Command	OLT(config)# snmp-agent sys-info contact <contact>
View	Config view
Description	This command is used to configure snmp agent contact info
<contact>	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

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

Command	OLT(config)# show snmp-agent sys-info
View	Config view
Description	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

Command	OLT(config)# snmp-agent trap <host-name> <ip-addr> <port> <community-name>
View	Config view
Description	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

Command	OLT(config)# show snmp-agent trap
View	Config view
Description	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 and Password

Command	OLT(config)# snmp-agent usm-user v3 <user-name> <group-id> authentication-mode md5 <md5-password> privacy-mode des56 <des56-password>
View	Config view
Description	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. Caution:it is need to create a group of secure mode based snmp agent.
<user-name>	Entity access user name
<group-id>	Group id which is based on user secure mode.
<md5-password >	User authentication password,its length is 8-64 characters.
<des56-passwor d>	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

Command	OLT(config)# show snmp-agent usm-user <user>
View	config view
Description	This command is used to show SNMP agent entity access user
<user>	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:111111111

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 Port Property Configuration

9.1.1.Disable Uplink Port

Command	OLT(config-interface-ge-0/0)# shutdown <port-list>
View	GE view
Description	This command is used to disable the specified ge port.
<port-list>	The port list to be configured,format for 1,2-3,4.

【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 ge4 of olt.

```
OLT(config-interface-ge-0/0)#shutdown 4
```

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

9.1.2.Enable Uplink Port

Command	OLT(config-interface-ge-0/0)# no shutdown <port-list>
View	GE view
Description	This command is used to enable the specified ge port.
<port-list>	The port list to be configured,format for 1,2-3,4.

【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 ge4 of olt.

```
OLT(config-interface-ge-0/0)#no shutdown 4
```

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

9.1.3.Config Uplink Port Name

Command	OLT(config-interface-ge-0/0)# port-name <port-ID> <name>
View	GE view
Description	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 1-4.
<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

Command	OLT(config-interface-ge-0/0)# no port-name <port-ID>
View	GE view
Description	This command is used to restore the name of ge port to the default value.
<port-ID>	The port id to be set,range for 1-4.

【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

Command	OLT(config-interface-ge-0/0)# auto-neg <port-list> {enable disable}
View	GE view
Description	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).
<port-list>	The port list to be set, range for 1,2-3,4.
enable disable	Enable:Enable the function of port auto-negotiation Disable:Disable the function of port auto-negotiation

【Example】

Example 1: Enable the function of ge1 auto-negotiation

```
OLT(config-interface-ge-0/0)#auto-neg 1enable
```

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

Example 2: Disable the function of ge3 auto-negotiation

```
OLT(config-interface-ge-0/0)#auto-neg 3 disable
```

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

9.1.6. Config Uplink Electric Port Duplex Mode

Command	OLT(config-interface-ge-0/0)# duplex <port-list> {full half}
View	GE view
Description	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.
<port-list>	The port list to be set, range for 1,2-3,4.
Full half	full: Full duplex half: Half duplex

【Example】

Example 1: Set the duplex mode of uplink port ge2 as half duplex.

```
OLT(config-interface-ge-0/0)#duplex 2 half
```

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

9.1.7. Config Uplink Electric Port Speed

Command	OLT(config-interface-ge-0/0)# speed <port-list> {10 100}
View	GE view
Description	This command is used to set the Ethernet port rate that will make the port work in manual setting rate.
<port-list>	The port list to be set, range for 1,2-3,4. the default rate of optical port and electric port both are 1000M.
10 100	10: 10Mbps 100: 100Mbps Caution: 1000Mbps only support auto-negotiation.

【Example】

Example 1: Set the rate of ge1 as 100Mbps.

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

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

9.1.8.Config Uplink Port Frame-Max

Command	OLT(config-interface-ge-0/0)# frame-max <port-list> <frame-max-value>
View	GE view
Description	This command is used to set port transmission frame-max-value. The default value is 1518.
<port-list>	The port list to be set, range for 1,2-3,4.
<frame-max-value>	The range of value: 328-12288

【Example】

Example 1: Set the frame-max of ge1 as 1600.

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

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

9.1.9.Delete Uplink Port Frame-Max

Command	OLT(config-interface-ge-0/0)# no frame-max <port-list>
View	GE view
Description	This command is used to reset the default value of port transmission frame-max.
<port-list>	The port list to be set, range for 1,2-3,4.

【Example】

Example 1: Reset the frame-max value of GE1 port to default 1518.

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

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

9.2.Config Uplink Port Flow-control Function

Command	OLT(config-interface-ge-0/0)# flow-control <port-list> {enable disable}
View	GE view
Description	This command is used to enable or disable the flow-control function

	of the Ethernet port.
<port-list>	The port list to be set,format for 1,2-3,4.
enable disable	enable:Enable the flow-control disable:Disable the flow-control

【 Example 】

Example 1: Enable the flow-control function of port GE1.

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

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

9.3.Config Uplink Port MAC Address Learning Function

Command	OLT(config-interface-ge-0/0)# mac-address learning port <port-list> {enable disable}
View	GE view
Description	This command is used to enable or disable the learning mac function of GE port.
<port-list>	The port list to be set,the range for 1-4,format for 1,2-3,4.
enable disable	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)#
```

9.4.Uplink Port Mirror Manage

9.4.1.Config Uplink Port Mirror Function

Command	OLT(config-interface-ge-0/0)# mirror src-port <src-port-id> dst-port {ge xge <F/S/P>} {all egress ingress}
View	GE view
Description	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.
<src-port-id>	The port list to be set,the range for 1-8
ge xge	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 GE1 to the port GE3.

```
OLT(config-interface-ge-0/0)#mirror src-port 1 dst-port ge 0/0/3 all
OLT(config-interface-ge-0/0)#
```

9.4.2.Delete Uplink Port Mirror Function

Command	OLT(config-interface-ge-0/0)# no mirror src-port <src-port-id>
View	GE view
Description	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)#
```

9.4.3.Show Uplink Port Mirror Configuration

Command	OLT(config-interface-ge-0/0)# show mirror
View	GE view
Description	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
-----
Destnation port:ge0/0/3

Source port Ingress Egress
ge0/0/1 Yes Yes
-----

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

```

9.5.Uplink Port Performance Statistics Function

9.5.1.Config Uplink Port Performance Statistics Threshold

Command	OLT(config-interface-ge-0/0)# statistics port <port-list> threshold <type> <upper-threshold>
View	GE view
Description	This command is used to set the performance statistics threshold of GE port
<port-list>	The port list to be set, range for 1,2-3,4.
<type-ID>	Range for 1-64,among which: 1:rx-octets:Byte of receive message 2:rx-frames:Frame of receive message 3:rx-bcasts:Received broadcast message 4:rx-mcasts:Received multicast message 5:rx-64octets:The received message with 64 Bytes 6:rx-65to127octets:The received message with 65-127 Bytes 7:rx-128to255octets:The received message with 128-255 Bytes 8:rx-256to511octets:The received message with 256-511 Bytes 9:rx-512to1023octets:The received message with 512-1023 Bytes 10:rx-1024to1518octets:The received message with 1024-1518 Bytes 13:rx-oversizes:Oversize received packet

	20:rx-discards:The discard received message 23:tx-octets:The Byte of transmit message 24:tx-frames:Transmitted frame 25:tx-bcasts:Transmitted broadcast packet 26:tx-mcasts:Transmitted multicast packet 27:tx-64octets:Transmitted packet with 64 bytes 28:tx-65to127octets:Transmitted packet with 65-127 bytes 29:tx-128to255octets:Transmitted packet with 128-255 bytes 30:tx-256to511octets:Transmitted packet with 256-511 bytes 31:tx-512to1023octets:Transmitted packet with 512-1023 bytes 32:tx-1024to1518octets:Transmitted packet with 1024-1518 bytes 35:tx-oversizes:The oversize transmitted message 42:tx-discards:The discard transmitted message
<upper-threshold> <d>	The upper limit of threshold,range for 0-4294967295
<lower-threshold> <d>	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)#
```

9.5.2.Show Uplink Port Performance Statistics Threshold

Configuration

Command	OLT(config-interface-ge-0/0)# show statistics port<port-ID>threshold
View	GE view
Description	This command is used to show the configuration of GE port performance statistics threshold
<port-ID>	Port id to be show,range for 1-4

【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)#
```

9.5.3. Clear Uplink Port Performance Statistics Infor

Command	OLT(config-interface-ge-0/0)# reset port statistics <port-ID>
View	GE view
Description	This command is used to clear the performance statistics info of GE port
<port-ID>	Port id to be show,range for 1-4

【 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)#
```

9.5.4. Config Uplink Port Performance Statistics Period

15minutes

Command	OLT(config-interface-ge-0/0)# statistics port <port-list> 15min { enable disable }
View	GE view
Description	This command is used to enable or disable 15 minutes time interval function of GE port performance statistics
<port-list>	Port list to be set,format for 1,2-3,4
enable disable	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)#
```

9.5.5. Config Uplink Port Performance Statistics Period 24H

Command	OLT(config-interface-ge-0/0)# statistics port<port-list>24hour {enable disable}
View	GE view
Description	This command is used to enable or disable 24 hours time interval function of GE port performance statistics
<port-list>	Port list to be set,format for 1,2-3,4
enable disable	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)#
```

9.5.6.Show Uplink Port Current 15min Performance Statistics

Command	OLT(config-interface-ge-0/0)# show statistics port <port-ID> current-15min
View	GE view
Description	This command is used to show the GE port performance statistics for current 15 minutes
<port-ID>	Port id to be show,range for 1-4

【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)#

```

9.5.7.Show Uplink Port Current 24H Performance Statistics

Command	OLT(config-interface-ge-0/0)# show statistics port <port-ID> current-24hour
View	GE view
Description	This command is used to show the GE port performance statistics for current 24 hour
<port-ID>	Port id to be show,range for 1-4

【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)#

```

9.5.8.Show Uplink Port History 15min Performance Statistics

Command	OLT(config-interface-ge-0/0)# show statistics port <port-ID> historic-15min <interval-number>
View	GE view
Description	This command is used to show the GE port the past 15min performance statistics info
<port-ID>	Port id to be show,range for 1-4
<interval-number>	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)#
```

9.5.9.Show Uplink Port History 24H Performance Statistics

Command	OLT(config-interface-ge-0/0)# show statistics port <port-ID>
----------------	---

	historic-24hour <interval-number>
View	GE view
Description	This command is used to show the GE port the past 24 hours performance statistics info
<port-ID>	Port id to be show,range for 1-4
<interval-number>	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)#
```

9.6.Uplink Port Storm Control Function

9.6.1.Config Uplink Port Broadcast Storm Control Function

Command	OLT(config-interface-ge-0/0)# traffic-suppress <port-ID> broadcast {enable disable} pps <value>
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4
enable disable	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function
<value>	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)#
```

9.6.2.Config Uplink Port Unknown Multicast Storm Control

Function

Command	OLT(config-interface-ge-0/0)# traffic-suppress <port-ID> non-multicast {enable disable} pps <value>
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4
enable disable	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function
<value>	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)#
```

9.6.3.Config Uplink Port Unknown Unicast Storm Control

Command	OLT(config-interface-ge-0/0)# traffic-suppress <port-ID> unknown-unicast {enable disable} pps <value>
view	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4
Enable disable	enable:Enable GE port broadcast storm suppression function disable:Disable GE port broadcast storm suppression function
<value>	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)#
```

9.7.OLT Uplink Port Rate Limit Function

9.7.1.Config Uplink Port Upstream and Downstream Rate Limit

Command	OLT(config-interface-ge-0/0)# port-rate <port-list> {egress ingress} <rate>
view	GE view
Description	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.
<port-list>	Port list to be set,format for 1,2-3,4
egress/ingress	Egress:downlink Ingress:uplink
<rate>	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)#
```

9.7.2.Delete Uplink Port Upstream and Downstream Rate Limit

Command	OLT(config-interface-ge-0/0)# no port-rate <port-list> {egress/ingress}
View	GE view
Description	This command is used to delete the upstream and downstream rate limit of GE port
<port-list>	Port list to be set,format for 1,2-3,4
egress ingress	Egress:downlink Ingress:uplink

<rate>	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)#
```

9.7.3.Show Uplink Port Upstream and Downstream Rate Limit

Configuration

Command	OLT(config-interface-ge-0/0)# show port-rate <port-list>
View	GE view
Description	This command is used to show the upstream and downstream rate limitation info of GE port
<port-list>	Port list to be set, range for 1,2-3,4

【 Example 】

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

```
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)#
```

9.8.Uplink Port Isolate Function

9.8.1.Config Uplink Port Isolate

Command	OLT(config-interface-ge-0/0)# isolate <port-list> {enable disable}
View	GE view
Description	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.
<port-list>	Port list to be set,format for 1,2-3,4

enable disable	Enable:enable the port isolation Disable:disable the port isolation
-------------------------	--

【Example】

Example 1: Enable the port isolation of GE1.

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

9.8.2.Show Uplink Port Isolation Configuration Infor

Command	OLT(config-interface-ge-0/0)# show port isolate
View	GE view
Description	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)#

9.9.Uplink Port RSTP Function

9.9.1.Config Uplink Port RSTP Cost

Command	OLT(config-interface-ge-0/0)# spanning-tree cost <port-ID> <cost>
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4

<cost>	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)#
```

9.9.2.Config Uplink Port RSTP Edged-port

Command	OLT(config-interface-ge-0/0)# spanning-tree edged-port <port-ID> {enable disable}
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4
enable disable	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)#
```

9.9.3.Config Uplink Port RSTP mcheck Property

Command	OLT(config-interface-ge-0/0)# spanning-tree mcheck <port-ID>
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4

【Example】

Example 1: Set the mcheck of GE1.

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

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

9.9.4.Config Uplink Port RSTP Point-to-Point Link Function

Command	OLT(config-interface-ge-0/0)# spanning-tree point-to-point <port-ID> {auto true false}
View	GE view
Description	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.
<port-ID>	Port id to be set,range for 1-4
auto true false	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)#
```

9.9.5.Config Uplink Port RSTP Priority

Command	OLT(config-interface-ge-0/0)# spanning-tree priority <port-ID> <port-priority>
View	GE view

Description	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.
<port-ID>	Port id to be set, range for 1-4
<port-priority>	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)#
```

9.9.6. Show Uplink Port RSTP Configuration

Command	OLT(config-interface-ge-0/0)# show port spanning-tree <port-ID>
View	GE view
Description	This command is used to show the RSTP configuration info of the GE port.
<port-ID>	Port id to be show, range for 1-4

【 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)#
```

9.10.Uplink Port VLAN Config

9.10.1.Config Uplink Port VLAN Mode

Command	OLT(config-interface-ge-0/0)# vlan mode <port-ID> {access hybrid trunk}
View	GE view
Description	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 Appendix 1.
<port-list>	Port list to be set,format for 1,2-3,4.
access hybrid trunk	Access:This kind of port only belongs to one vlan,generally it is used to connect to computer. 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. 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.

【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)#
```

9.10.2.Config Uplink Port Native-vlan

Command	OLT(config-interface-ge-0/0)# vlan native-vlan <port-list> <vlan-ID>
View	GE view
Description	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 Appendix 1.
<port-list>	Port list to be set, format for 1,2-3,4
<vlan-ID>	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)#
```

9.10.3.Config Uplink Port Native-vlan Priority

Command	OLT(config-interface-ge-0/0)# vlan native-vlan-priority <port-list> <priority>
View	GE view
Description	This command is used to set the native vlan priority of the GE port,the default both are 0.
<port-list>	Port list to be set, format for 1,2-3,4
<priority>	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)#
```

9.10.4.Config Uplink Port Access Mode VLAN

Command	OLT(config-interface-ge-0/0)# vlan access <port-ID> <vlan-id>
View	GE view
Description	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 Appendix 1 .
<port-ID>	Port id to be set,range for 1-4
<vlan-id>	Access VLAN ID,range for 1-4094

【Example】

Example 1: 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)#
```

9.10.5.Config Uplink Port Hybrid Mode VLAN

Command	OLT(config-interface-ge-0/0)# vlan hybrid <port-ID> {tagged/untagged} <vlan-list>
View	GE view
Description	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 Appendix 1 .
<port-ID>	Port id to be set,range for 1-4
Tagged untagged	tagged:Add corresponding vlan tag for the output message untagged:Peel off corresponding vlan tag for output message
<vlan-list>	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 1: 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)#
```

9.10.6.Delete Uplink Port Hybrid Mode VLAN

Command	OLT(config-interface-ge-0/0)# no vlan hybrid <port-ID> {tagged/untagged} <vlan-list>
View	GE view
Description	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 Appendix 1 .
<port-ID>	Port id to be set,range for 1-4
Tagged untagged	tagged:Add corresponding vlan tag for the output message untagged:Peel off corresponding vlan tag for output message
<vlan-list>	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)#
```

9.10.7.Config Uplink Port Trunk Mode VLAN

Command	OLT(config-interface-ge-0/0)# vlan trunk <port-ID><vlan-list>
View	GE view
Description	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 Appendix 1 .
<port-ID>	Port id to be set,range for 1-4
<vlan-list>	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)#
```

9.10.8.Delete Uplink Port Trunk Mode VLAN

Command	OLT(config-interface-ge-0/0)# no vlan trunk <port-ID> <vlan-list>
View	GE view
Description	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 Appendix 1 .
<port-ID>	Port id to be delete,range for 1-4
<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)#
```

9.10.9.Config Uplink Port Translate Mode VLAN

Command	OLT(config-interface-ge-0/0)# vlan translate <port-list> <old-vlan> <new-vlan> <new-priority>
View	GE view
Description	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 1-4
<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 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)#
```

9.10.10.Delete Uplink Port Translate Mode VLAN

Command	OLT(config-interface-ge-0/0)# no vlan translate <port-list> <vlan-id>
View	GE view
Description	This command is used to delete the translate vlan of GE port.
<port-list>	Port id to be delete,range for 1-4
<vlan-id>	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)#
```

9.10.11.Config Uplink Port Protocol VLAN

Command	OLT(config-interface-ge-0 0)# protocol-vlan <protocol-index> {add delete} port <port-list> <vlan-ID>
----------------	---

View	GE view
Description	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.
<protocol-index >	Protocol vlan index, range for 1-16
add delete	add: Add vlan delete: Delete vlan
<port-list>	Port list to be set, format for 1,2-3,4
<vlan-ID>	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)#
```

9.11. Show OLT Uplink Port Information

9.11.1. Show OLT Uplink Port Property and Status

Command	OLT(config-interface-ge-0/0)# show port state {<port-ID> all}
View	GE view
Description	This command is used to show the status info of GE port.
<port-ID> all	Port-ID: Port id to be show, range for 1-4 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
Frame
          Status                Nego      /Mbps  lex    Ctrl
Max
-----
ge0/0/1  absence 101    enable 1000   full  on   enable  enable  off
1518
ge0/0/2  absence 1      enable 1000   full  on   enable  enable  off
```

```

1518
  ge0/0/3   absence  55    enable  1000   full  off   enable  enable  off
1518
  ge0/0/4   absence  555   enable  1000   full  off   enable  enable  on
1518
-----
OLT(config-interface-ge-0/0)#

```

Example 2: Show property and status of GE1.

```

OLT(config-interface-ge-0/0)# show port state 1
-----
Port name                : ge0/0/1
Current port state       : enable
Current link state       : DOWN
The maximum frame size   : 1518
Link speed                : autonegotiation(1000 Mbps)
Link duplex              : autonegotiation(FULL)
Flow-control             : on
Maximum number of learned l2 entries : unlimited
Broadcasts stormcontrol  : disable
Unknow multicasts stormcontrol : disable
Unknow unicasts stormcontrol : 150(pps)
-----
Native-vlan: 101   Link-type: Access   Priority: 0

Untagged VLAN ID :
  101
-----
Statistics 15 minute status : disable
Statistics 24 hour status   : disable

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)#

```

9.11.2.Show OLT Uplink Port VLAN Configuration

Command	OLT(config-interface-ge-0/0)# show port vlan <port-ID>
----------------	---

View	GE view
Description	This command is used to show the vlan info of GE port.
<port-ID>	Port id to be show,range for 1-4

【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)#

```

9.11.3.Show OLT Uplink Port Optical Power Information

Command	OLT(config-interface-ge-0/0)# show ddm-info <port-ID>
View	GE view
Description	This command is used to show optical power info of optical GE port
<port-ID>	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)#

```

10.OLT PON Port Configuration

10.1.OLT PON Port Property Config

10.1.1.Disable PON Port

Command	OLT(config-interface-gpon-0/0)# shutdown {<port-list> all}
View	Gpon view
Description	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
<all>	All PON ports

【Example】

Example 1: Disable pon port 1-3.

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

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

Example 2: Disable pon port 5 and 7.

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

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

10.1.2.Enable PON Port

Command	OLT(config-interface- gpon -0/0)# no shutdown {<port-list> all}
View	Gpon view
Description	This command is used to enable the specified pon port
<port-list>	Port list to be set,range for 1-16,format for 1,3-5,8
<all>	All PON ports

【Example】

Example 1: Enable pon port 1-3

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

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

Example 2: Enable pon port 5 and 7

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

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

10.1.3.Config PON Port Name

Command	OLT(config-interface-gpon-0/0)# port-name <port-ID> <name>
View	Gpon view
Description	This command is used to set the name of pon port which is convenient for user to management
<port-ID>	Port id to be set,range for 1-16
<name>	Port name to be set

【Example】

Example 1: Set the name of pon1 port as test.

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

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

10.1.4.Delete PON Port Name

Command	OLT(config-interface-gpon-0/0)# no port-name <port-ID>
View	Gpon view
Description	This command is used to reset the name of pon port to default value.
<port-ID>	Port id to be set,range for 1-16

【Example】

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

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

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

10.1.5.Config PON Port Frame-Max

Command	OLT(config-interface-gpon-0/0)# frame-max <port-list> <frame-max-value>
----------------	--

view	Gpon view
Description	This command is used to set port transmission frame-max value. The default value is 1518.
<port-list>	Port list to be set,range for 1-16,format for 1,3-5,8
<frame-max-value>	The range of value is 328~2048.

【Example】

Example 1: Set frame-max value of pon 1 as 1600.

```
OLT(config-interface-gpon-0/0)#frame-max 1 1600

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

10.1.6.Delete PON Port Frame-Max

Command	OLT(config-interface-gpon-0/0)#no frame-max <port-list>
View	Gpon view
Description	This command is used to restore the pon port transmission frame-max value as default 1518.
<port-list>	Port list to be set,range for 1-16,format for 16-7,8

【Example】

Example 1: Restore the frame-max value of pon1 as default 1518.

```
OLT(config-interface-gpon-0/0)#no frame-max 1

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

10.2.Detect ONT Long Laser Function

10.2.1.Config Auto Detect ONT Long Laser Function

Command	OLT(config-interface-gpon-0/0)# anti-rogueont auto-detect <port-ID> all {enable disable} interval <interval-value>
View	Gpon view
Description	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.

<port-ID>	Port id to be set,range for 1-16,format for 1,6-7,8
all	All PON ports
enable disable	enable: turn on ONU long laser function disable:turn off ONU long laser function
Interval	Auto-detect interval time. Range for 1-100 mins. The default value is 15

【Example】

Example 1: Enable pon1 automatic detecting onu long laser

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

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

10.2.2.Config Manual Detect ONT Long Laser Function

Command	OLT(config-interface-gpon-0/0)# anti-rogueont manual-detect <port-ID>
View	Gpon view
Description	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.
<port-ID>	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-gpon-0/0)#anti-rogueont manual-detect 1
```

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

10.2.3.Show Detect ONT Long Laser Configuration

Command	OLT(config-interface-gpon-0/0)# show anti-rogueont auto-detect switch
View	Gpon view
Description	This command is used to show the configuration info that pon port automatically detects onu long laser.

【Example】

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

```

OLT(config-interface-gpon-0/0)# show anti-rogueont auto-detect switch
-----
F/S Port      Switch      Interval(min)
-----
0/0 1        enable      15
0/0 2        enable      15
0/0 3        enable      15
0/0 4        enable      15
0/0 5        enable      15
0/0 6        enable      15
0/0 7        enable      15
0/0 8        enable      15
0/0 9        enable      15
0/0 10       enable      15
0/0 11       enable      15
0/0 12       enable      15
0/0 13       enable      15
0/0 14       enable      15
0/0 15       enable      15
0/0 16       enable      15
-----
OLT(config-interface-gpon-0/0)#

```

10.3.Config PON Port Flow-control Function

Command	OLT(config-interface-gpon-0/0)# flow-control <port-list> {enable disable}
View	Gpon view
Description	This command is used to set the flow-control function of pon port.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
enable disable	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-gpon-0/0)#flow-control 1 enable

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

```

10.4.Config PON Port Mirror Function

10.4.1.Config Pon Port Mirror Function

Command	OLT(config-interface-gpon-0/0)# mirror src-port <src-port-id> dst-port {ge xge <F/S/P>} {all egress ingress}
View	Gpon view
Description	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.
<src-port-id>	Source mirror port to be set,range for 1-16
ge xge	ge:Giga GE port xge:10Giga GE port
<F/S/P>	Destination mirror port id. ge port: range for 0/0/1-0/0/4; xge port: range for 0/0/1-0/0/2.
all egress ingress	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 GE2.

```
OLT(config-interface-gpon-0/0)#mirror src-port 1 dst-port ge 0/0/2 all
```

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

10.4.2.Delete PON Port Mirror Function

Description	OLT(config-interface-gpon-0/0)# no mirror src-port <src-port-id>
View	Gpon view

Description	This command is used to cancel the pon port mirror setting.
<src-port-id>	Source mirror port id,range for 1-16

【Example】

Example 1: Cancel pon1 mirror setting.

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

10.4.3.Show PON Port Mirror Configuration

Command	OLT(config-interface-gpon-0/0)# show mirror
View	Gpon view
Description	This command is used to show the pon port mirror setting info.

【Example】

Example 1: Show mirror setting info.

```
OLT(config-interface-gpon-0/0)# show mirror
-----
Destination port: ge0/0/1

Source port   Ingress   Egress
pon0/0/2     Yes       Yes
-----

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

10.5.PON Port Performance Statistics Function

10.5.1.Config PON Port Performance Statistics Period 15min

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

	disable:Disable 15min performance statistics
--	--

【 Example 】

Example 1: Enable pon1 15min performance statistics function.

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

10.5.2.Config PON Port Performance Statistics Period 24H

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

【 Example 】

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

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

10.5.3.Config PON Port Performance Statistics Threshold

Command	OLT(config-interface-gpon-0/0)# statistics port <port-list> threshold <type> <upper-threshold><lower-threshold>
View	Gpon view
Description	This command is used to set the threshold of pon port performance statistics.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
<type-ID>	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

	<p>5:rx-64octets:The received frame packet length for 64 bytes</p> <p>6:rx-65to127octets:The received frame packet length for 65-127 bytes</p> <p>7:rx-128to255octets:The received frame packet length for 128-255 bytes</p> <p>8:rx-256to511octets:The received frame packet length for 256-511 bytes</p> <p>9:rx-512to1023octets:The received frame packet length for 512-1023 bytes</p> <p>10:rx-1024to1518octets:The received frame packet length for 1024-1518 bytes</p> <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>	Upper limit threshold,range for 0-4294967295
<lower-threshold>	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-gpon-0/0)#statistics port 1 threshold 35 50000 500

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

10.5.4.Clear PON Port Performance Statistics Infor

Command	OLT(config-interface-gpon-0/0)# reset statistics port <port-ID>
View	Gpon view
Description	This command is used to clear the pon port performance statistics info.
<port-ID>	Port id to be set,range for 1,6-7.8

【 Example 】

Example 1: Clear pon1 performance statistics info.

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

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

10.5.5.Show PON Port Current 15min Performance Statistics

Command	OLT(config-interface-gpon-0/0)# show statistics port <port-ID> current-15min
View	Gpon view
Description	This command is used to show current 15min statistics info of pon port.
<port-ID>	Port id to be show,range for 1-16.

【 Example 】

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

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

```

10.5.6.Show PON Port Current 24H Performance Statistics

Command	OLT(config-interface-gpon-0/0)# show statistics port <port-ID> current-24hour
View	Gpon view
Description	This command is used to show current 24h statistics info of pon port
<port-ID>	Port id to be set,range for 1-16

【Example】

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

```

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

```

10.5.7.Show PON Port History 15min Performance Statistics

Command	OLT(config-interface-gpon-0/0)# show statistics port <port-ID> historic-15min <interval-number>
View	Gpon view
Description	This command is used to show performance statistics of pon port over the past 15min
<port-ID>	Port id to be set,range for 1-16
<interval-number>	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-gpon-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-gpon-0/0)#

```

10.5.8.Show PON Port History 24H Performance Statistics

Command	OLT(config-interface-gpon-0/0)# show statistics port <port-ID> historic-24hour <interval-number>
View	Gpon view

Description	This command is used to show the performance statistics of PON over the past 24 hours.
<port-ID>	Port id to be show,range for 1-16.
<interval-number>	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-gpon-0/0)#show statistics port 1 historic-24hour 1
The data for this interval is invalid!

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

10.5.9.Show PON Port Performance Statistics Threshold

Configuration

Command	OLT(config-interface-gpon-0/0)# show statistics port <port-ID> threshold
View	Gpon view
Description	This command is used to show the threshold configuration of pon port performance statistics
<port-ID>	Port id to be set,range for 1-16.

【Example】

Example 1: Show threshold configuration of pon1 performance statistics.

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

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

10.6.PON Port Storm Control Function

10.6.1.Config PON Port Broadcast Storm Control Function

Command	OLT(config-interface-gpon-0/0)# traffic-suppress <port-ID> broadcast {enable disable} pps<value>
View	Gpon view

Description	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.
<port-ID>	Port id to be set,range for 1-16
enable disable	Enable:Enable broadcast storm suppression function of pon port disable:Disable broadcast storm suppression function of pon port
<value>	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-gpon-0/0)#traffic-suppress 1 broadcast enable pps 14000

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

10.6.2.Config PON Port Unknown Multicast Storm Control Function

Command	OLT(config-interface-gpon-0/0)# traffic-suppress <port-ID> unknown-multicast {enable disable} pps <value>
View	Gpon view
Description	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.
<port-ID>	Port id to be set,range for 1-16.
enable disable	Enable:Enable unknown multicast storm suppression function of pon port disable:Disable unknown multicast storm suppression function of pon port
<value>	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-gpon-0/0)#traffic-suppress 1 non-multicast enable pps 14000

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

10.6.3.Config PON Port Unknown Unicast Storm Control

Command	OLT(config-interface-gpon-0/0)# traffic-suppress <port-ID> unknown-unicast {enable disable} pps <value>
View	Gpon view
Description	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.
<port-ID>	Port id to be set,range for 1-16.
enable disable	Enable:Enable unknown unicast storm suppression function of pon port disable:Disable unknown unicast storm suppression function of pon port
<value>	Pulse number per second,range for 1-1488100,unit is pps

【Example】

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

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

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

10.7.PON Port Rate Limit Function

10.7.1.Config PON Port Egress and Ingress Rate Limit

Command	OLT(config-interface-gpon-0/0)# port-rate <port-list> {egress ingress} <rate>
View	Gpon view
Description	This command is used to set a rate limitation value for egress or ingress message of pon port.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
egress ingress	Egress:Downstream direction Ingress:Upstream direction
<rate>	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-gpon-0/0)#port-rate 1 egress 102400
OLT(config-interface-gpon-0/0)#

10.7.2.Delete PON Port Egress and Ingress Rate Limit

Command	OLT(config-interface-gpon-0/0)#no port-rate <port-list> {egress ingress}
View	Gpon view
Description	This command is used to cancel rate limitation of pon port.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
egress ingress	Egress:downstream Ingress:upstream
<rate>	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-gpon-0/0)#no port-rate 1 egress
OLT(config-interface-gpon-0/0)#

10.7.3.Show PON Port Egress and Ingress Rate Limit Configuration

Command	OLT(config-interface-gpon-0/0)#show port-rate <port-list>
View	Gpon view
Description	This command is used to show upstream and downstream rate limited configuration info of pon port
<port-list>	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-gpon-0/0)#show port-rate 1

```
Traffic shaping:
-----
port egress ingress
pon0/0/1 0 0

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

10.8.PON Port Isolate Function

10.8.1.Config PON Port Isolate

Command	OLT(config-interface-gpon-0/0)# isolate <port-list> {enable disable}
View	Gpon view
Description	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.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
enable disable	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-gpon-0/0)#isolate 1 enable

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

10.8.2.Config PON Port Ont-isolate Function

Command	OLT(config-interface-gpon-0/0)# p2p <port-list> {enable disable}
View	Gpon view
Description	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.
<port-list>	Port list to be set,range for 1-16,format for 1,6-7,8
enable disable	Enable:Enable ont-isolate function Disable:Disable ont-isolate function

【Example】

Example 1: Disable ont-isolate function of pon1.

```

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

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

```

10.8.3.Show PON Port Isolation Configuration Info

Command	OLT(config-interface-gpon-0/0)# show port isolate
View	Gpon view
Description	This command is used to show isolating configuration info of pon port.

【Example】

Example 1: Show isolating configuration info of pon port

```

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

```

10.9.Show OLT PON Port Information

10.9.1.Show OLT PON Port Property and Status

Command	OLT(config-interface-gpon-0/0)# show port state {<port-ID> all}
View	Gpon view
Description	This command is used to show the property info of pon port
<port-ID> all	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-gpon-0/0)# show port state all
-----

```

F/S Port	Optic Status	Pvid	Flow Ctrl	Learn	Admin	Frame Size	Link State	Auto State	Auth Max	Available State	Find	Mode
0/0 1	absence	1	off	en	en	1518	down	dis	A-S	962400		
0/0 2	normal	1	on	en	en	1518	up	en	M-S	961376		
0/0 3	normal	1	on	en	en	1518	down	dis	A-S	961632		M-S
0/0 4	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 5	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 6	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 7	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 8	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 9	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 10	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 11	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 12	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 13	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 14	normal	1	on	en	en	1518	up	dis	A-S	962144		
0/0 15	absence	1	on	en	en	1518	down	dis	A-S	962400		
0/0 16	absence	1	on	en	en	1518	down	dis	A-S	962400		

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

Example 2: Show the property info of pon1.

```

OLT(config-interface-gpon-0/0)# show port state 1
Frame/Slot           : 0/0
Port                 : 1
Optical Module status : absence
Admin state          : enable
Link state           : down
Auto find            : disable
Policy authentication : enable
Authentication mode   : auto to sn-auth
Available bandwidth   : 962400(Kbps)
Anti-roguent auto-detect : enable

Port Name             : pon0/0/1
Native vlan           : 1
Maximum frame size    : 1518
Flow-control          : Off
Maximum learned I2 entries : unlimited
Broadcast storm control : 150(pps)

```



```

Unknow multicast storm control    : disable
Unknown unicast storm control    : 150(pps)
Port 15 minute statistics status : disable
Port 24 hour statistics status   : disable

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

```

10.9.2.Show PON Port Optical Power Information

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

【Example】

Example 1: Show optical power info of pon1.

```

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

```

11.OLT MAC Address Table Manage

11.1.Config OLT MAC-address Black-hole

Command	OLT(config)# mac-address black-hole vlan <vlan-ID> <mac-address>
View	Config view

Description	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.
<vlan-ID>	VLAN id,range for 1-4094
<mac-address>	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

Command	OLT(config)# no mac-address black-hole vlan<vlan-ID><mac-address>
View	Config view
Description	This command is used to delete black-hole mac address
<vlan-ID>	VLAN ID,range for 1-4094.
<mac-address>	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

Command	OLT(config)# mac-address limit port {ge xge} F/S <port-list> <number>
View	Config view
Description	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.
ge xge	gpon:PON port ge:ge uplink port

	xge:xge 10giga uplink port
F/S	FrameID/SlotID,<0-0>/<0-0>,the value of 1U olt is 0/0
<port-list>	Port list to be set,range for 1-16,format is 1,6-7,8
<number>	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 GE1 as 500

```
OLT(config)#mac-address limit port ge 0/0 1 500
```

```
OLT(config)#
```

11.4.Add Static MAC Address Bind Function

Command	OLT(config)# mac-address static port {[[ge xge] F/S/P] [lag <manual-group-ID> <lacp-group-ID>]} vlan <vlan-ID> <mac-address>
View	Config view
Description	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.
ge/xge/lag	gpon: Pon port,range for 0/0/1-16 ge:GE uplink port,range for 0/0/1-4 xge:10giga xge uplink port,range for 0/0/1-2 Lag:Port aggregation group,range for 1-8,9-16
F/S/P	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
<manual-group-ID> <lacp-group-ID>	manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16
<vlan-ID>	VLAN ID,range for 1-4094.
<mac-address>	Mac address,format for XX:XX:XX:XX:XX:XX

【Example】

Example 1: Bind mac address e0:67:b3:12:eb:f6 with GE1 and vlan 100.

```
OLT(config)#mac-address static port ge 0/0/1 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

Command	OLT(config)# no mac-address static port {[[ge xge] F/S/P] [lag <manual-group-ID> <lacp-group-ID>]} vlan <vlan-ID> <mac-address>
View	Config view
Description	This command used to delete static mac address of olt
ge xge lag	gpon: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
F/S/P	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-16> ,
<manual-group-ID> <lacp-group-ID>	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
<vlan-ID>	manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16
<mac-address>	VLAN ID,range for 1-4094.

【Example】

Example 1: No bind the mac address e0:67:b3:12:eb:f6 with the GE1 and vlan 100.

```
OLT(config)#no mac-address static port ge 0/0/1 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

Command	OLT(config)# mac-address timer {<aging-time> <no-aging>}
View	Config view
Description	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.
<aging-time> no-aging	<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

Command	OLT(config)# mac-address flush {all dynamic black-hole static}
View	Config view
Description	This command is used to clear the mac address table of olt
all dynamic black-hole static	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

Command	OLT(config)# mac-address flush port {[gpon ge xge] F/S/P} [lag <manual-group-ID> <lacp-group-ID>] all dynamic static
View	Config view
Description	This command is used to clear the MAC address learned by the port of OLT
gpon ge xge lag	gpon: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
F/S/P	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-16> ,
<manual-group-ID> <lacp-group-ID>	FrameID/SlotID/PortID,<0-0>/<0-0>/<1-16>
all dynamic static	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

Command	OLT(config)# mac-address flush vlan <vlan-ID> {all black-hole dynamic static}
View	Config view
Description	This command is used to clear the mac address learned by the vlan of olt
<vlan-ID>	Vlan id
all black-hole dynamic static	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

Command	OLT(config)# show mac-address all
View	Config view
Description	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

Command	OLT(config)# show mac-address black-hole
View	Config view
Description	This command is used to show all the black hole mac address of olt

【Example】

Example 1: Show all the black hole mac address of olt.

```
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

Command	OLT(config)# show mac-address dynamic
View	Config view
Description	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)#
```



```
OLT(config)#
```

11.13. Show MAC Address Table From PON Port

Command	OLT(config)# show mac-address port gpon F/S/P
View	Config view
Description	This command is used to show the mac address learned by pon port and show the onu id that the mac address had through
F/S/P	FrameID/SlotID/PortID,range for<0-0>/<0-0>/<1-16>

【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 gpon 0/0/1
```

```
-----  
Total:1  
-----
```

```
MAC VLAN Port MAC-Type  
-----
```

```
E0:67:B3:0D:0E:01 1 pon0/0/1 dynamic  
-----
```

```
OLT(config)#
```

11.14. Show MAC Address Table From GE Port

Command	OLT(config)# show mac-address port ge F/S/P
View	Config view
Description	This command is used to show the mac address learned by GE port.
F/S/P	FrameID/SlotID/PortID,range for<0-0>/<0-0>/<1-4>

【Example】

Example 1 : Show the mac address learned by GE1

```
OLT(config)# show mac-address port ge 0/0/1
```

```
-----  
Total: 28  
-----
```

```
MAC                VLAN      Sport  Port          Onu      Gemid
```

MAC-Type						

EC:D0:9F:D2:6B:E7	101	-	ge0/0/1	-	-	
dynamic						
E4:A4:71:49:9E:31	101	-	ge0/0/1	-	-	
dynamic						
48:A9:D2:52:98:11	101	-	ge0/0/1	-	-	
dynamic						
30:B4:9E:42:A0:1C	101	-	ge0/0/1	-	-	
dynamic						
00:60:F3:21:43:D2	101	-	ge0/0/1	-	-	
dynamic						
F0:C8:50:3D:F9:56	101	-	ge0/0/1	-	-	
dynamic						
98:CA:33:85:EE:A0	101	-	ge0/0/1	-	-	
dynamic						
E0:67:B3:39:A5:06	101	-	ge0/0/1	-	-	
dynamic						
F4:06:69:B3:75:6D	101	-	ge0/0/1	-	-	
dynamic						
5C:AD:CF:23:31:7B	101	-	ge0/0/1	-	-	
dynamic						
C0:D0:12:D2:AF:1B	101	-	ge0/0/1	-	-	
dynamic						
AC:61:EA:EF:CF:DF	101	-	ge0/0/1	-	-	
dynamic						
E0:06:E6:98:2F:54	101	-	ge0/0/1	-	-	
dynamic						
00:DB:DF:9C:FA:0E	101	-	ge0/0/1	-	-	
dynamic						
9C:F3:87:B8:04:72	101	-	ge0/0/1	-	-	
dynamic						
A8:6B:AD:54:C8:E3	101	-	ge0/0/1	-	-	
dynamic						
B0:52:16:28:26:D7	101	-	ge0/0/1	-	-	
dynamic						
48:BF:6B:BD:F6:50	101	-	ge0/0/1	-	-	
dynamic						
FC:D8:48:C8:9C:60	101	-	ge0/0/1	-	-	
dynamic						
B8:81:98:78:36:10	101	-	ge0/0/1	-	-	
dynamic						
E0:67:B3:00:00:A1	101	-	ge0/0/1	-	-	
dynamic						

38:37:8B:D6:C0:3A	101	-	ge0/0/1	-	-
dynamic					
A4:CA:A0:C0:C7:18	101	-	ge0/0/1	-	-
dynamic					
A4:71:74:01:E8:98	101	-	ge0/0/1	-	-
dynamic					
40:33:1A:CD:3E:89	101	-	ge0/0/1	-	-
dynamic					
40:83:1D:D5:78:8D	101	-	ge0/0/1	-	-
dynamic					
3C:95:09:50:4C:E5	101	-	ge0/0/1	-	-
dynamic					
FC:7C:02:2F:AC:57	101	-	ge0/0/1	-	-
dynamic					

OLT(config)#					

11.15.Show MAC Address Table From XGE Port

Command	OLT(config)# show mac-address port xge F/S/P
View	Config view
Description	This command is used to show the mac address learned by XGE port.
F/S/P	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)#
```

11.16.Show MAC Address Table From Aggregation Group

Command	OLT(config)# show mac-address port lag {<Manual group ID> <Lacp group ID>}
View	Config view
Description	This command is used to show mac address learned by port aggregation group.

<p><Manual group ID> <Lacp group ID></p>	<p>manual-group-ID,range for 1-8 lacp-group-ID,range for 9-16</p>
--	---

【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)#
```

11.17.Show OLT Static MAC Address Tables

Command	OLT(config)# show mac-address static
View	Config view
Description	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)#
```

11.18.Show OLT MAC Address Aging Time Configuration

Command	OLT(config)# show mac-address timer
View	Config view
Description	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)#

```

11.19.Show MAC Address Table From Specified Vlan

Command	OLT(config)# show mac-address vlan <vlan-id>
View	Config view
Description	This command is used to show the mac address of specified vlan.
<vlan-id>	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 VLAN Configurations

12.1.OLT VLAN Basic Configuration

12.1.1.Create OLT VLAN or VLAN List

Command	OLT(config)# vlan vlan-list
View	Config view
Description	This command is used to create a vlan or a vlan list.
<vlan-list>	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

Command	OLT(config)# no vlan vlan-list
View	Config view
Description	This command is used to delete one or batch of vlan
<vlan-list>	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

Command	OLT(config)# vlan-name <vlan-list> <vlan-name>
View	Config view
Description	This command is used to set the vlan name.
<vlan-name>	Vlan name,length for 1-17 letters

<vlan-list>	VLAN id to be delete,range for 1-4094
--------------------------	---------------------------------------

【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

Command	OLT(config)# no vlan-name <vlan-list>
View	Config view
Description	This command is used to delete the name of vlan.
<vlan-list>	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

Coammand	OLT(config)# show vlan {<vlan-ID> <all>}
View	Config view
Description	This command is used to show vlan info.
<vlan-ID>	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:
    ge0/0/2      ge0/0/4      xge0/0/1     xge0/0/2     lag1
    lag2         lag3         lag4         lag5         lag6
    lag7         lag8         lagL9        lagL10       lagL11
    lagL12       lagL13       lagL14       lagL15       lagL16
Tagged-Ports: -
-----
Vlan-ID: 55        Vlan-Name: vlan55
Untagged-Ports:
    ge0/0/3
Tagged-Ports: -
-----
```

12.1.6.Show OLT VLAN Translate Configuraiton

Command	OLT(config)# show vlan translate all
View	Config view
Description	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

Command	OLT(config)# (no)interface vlanif vlan-list
View	Config view
Description	This command is used to create or delete a vlanif interface
<vlan-list>	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

Command	OLT(config-interface-vlanif-100)# <no>ip address <Ip address> {<IP address mask length-mask>}
View	Vlanif interface
Description	This command is used to create or delete the ip address of vlanif interface
<Ip address>	IP address of vlanif,format for X.X.X.X

<IP address mask>	IP address mask of vlanif interface,format for X.X.X.X
<length-mask>	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

Command	OLT(config-interface-vlanif-100)# description<description information>
View	VLANIF view
Description	This command is used to set the description of vlanif interface
<description information>	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

Command	OLT(config)# show interface {vlanif <vlan-list> brief}
View	Config view

Description	This command is used to show the detail info of one or whole vlanif interface
<vlan-list>	VLAN ID to be show

【Example】

Example 1: Show the info of vlanif 100

```
OLT(config)# show interface vlanif 100
Description : test is link down
The Maximum Transmit Unit is 1500 bytes
Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
    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 vlanif1 is link up
The Maximum Transmit Unit is 1500 bytes
Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
    Recive 0 packets, 0 bytes
    Transmit 0 packets, 0 bytes

Description : test is link down
The Maximum Transmit Unit is 1500 bytes
Internet Address is 0.0.0.0, netmask 0.0.0.0
Hardware address is E0:67:B3:00:00:A2
    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

Command	OLT(config)# mac-vlan <mac-address> <vlan-id> <priority>
View	Config view

Description	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.
<mac-address>	Mac address,format for xx.xx.xx.xx.xx.xx。
<vlan-id>	VLAN id,range for 1-4094.
<priority>	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

Command	OLT(config)# show mac-vlan all
View	Config view
Description	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.Delete MAC-VLAN Entry

Command	OLT(config)# no mac-vlan {<mac-address>/all}
View	Config view
Description	This command is used to delete a mac-vlan entry or all mac-vlan entries
<mac-address>	Mac address,format for xx.xx.xx.xx.xx.xx。

<all>	All mac-vlan entries
-----------------------------	----------------------

【Example】

Example 1: Delete a mac-vlan entry that mac address is 13:20:12:08:97:23

```
OLT(config)# no mac-vlan 13:20:12:08:97:23

OLT(config)#
```

Example 1: Delete all mac-vlan entries

```
OLT(config)# no mac-vlan all

OLT(config)#
```

12.3.4.Add VLAN Policy Based On IP Address

Command	OLT(config)# ip-subnet-vlan <ip-addr> <length-mask/mask> <vlan-id> <priority>
View	Config view
Description	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.
<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)#
```

12.3.5.Show IP-Subnet-VLAN Entry

Command	OLT(config)# show ip-subnet-vlan all
View	Config view
Description	This command is used to show the entry of ip-subnet-vlan

【Example】

Example 1: Show all the entry of ip-subnet-vlan.

<pre> OLT(config)#show ip-subnet-vlan all ----- ip-address netmask vlan priority 192.168.5.0 255.255.255.0 100 0 ----- OLT(config)# </pre>
--

12.3.6.Delete IP-Subnet-VLAN Entry

Command	OLT(config)# no ip-subnet-vlan <ip-addr> {<length-mask>/<mask>}
View	Config view
Description	This command is used to delete ip-subnet-vlan entry
<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

【Example】

Example 1: Delete IP-Subnet-VLAN Entry that IP address is 192.168.5.34 and Mask-length is 24.

<pre> OLT(config)# no ip-subnet-vlan 192.168.5.34 24 OLT(config)# </pre>
--

12.3.7.Add VLAN Policy Based On Protocol

Command	<pre> OLT(config)#protocol-vlan <protocol-index> <at ipv4 ipv6 > <ethernetii snap> OLT(config)#protocol-vlan <protocol-index> <ipx> <ethernetii snap llc snap> OLT(config)#protocol-vlan <protocol-index> mode <ethernetii snap> etype <ethertype id> </pre>
----------------	--

View	Config view
Description	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: ether type
<ethertype id>	The number of ether type, 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)#
```

12.3.8. Show Protocol-vlan Entry

Command	OLT(config)# show protocol-vlan all
View	Config view
Description	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)#

```

12.3.9.Delete Protocol-VLAN Entry

Command	OLT(config)# no protocol-vlan <protocol-index>
View	Config view
Description	This command is used to a protocol-vlan entry

【Example】

Example 1: Delete protocol-vlan entry for index 1

```

OLT(config)# no protocol-vlan 1

OLT(config)#

```

13.OLT IGMP Configuration

13.1.Config IGMP Fast-leave Function

Command	OLT(config)# igmp fast-leave {on off}
View	Config view
Description	<p>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> <p>igmp fast-leave on: 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>

<on off>	Off:Close igmp-snooping igmp fast-leave function of olt On:Open igmp-snooping igmp fast-leave function of olt

【Example】

Example 1: Open igmp-snooping igmp fast-leave function of olt

```
OLT(config)#igmp fast-leave on

OLT(config)#
```

13.2.Config IGMP Mode

Command	OLT(config)# igmp mode {snooping proxy disable}
View	Config view
Description	This command is used to set the mode of igmp
<ctc snooping proxy disable>	<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

Command	OLT(config)# igmp proxy <gen_interval gen_response robustness source-ip sp_count sp_interval sp_response>
View	Config view
Description	This command is used to set parameter of IGMP Proxy
<gen_interval gen_response robustness source-ip sp_count sp_interval sp_response>	<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</p>

	<p>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 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

Command	OLT(config)# igmp policy {discard pass}
View	Config view
Description	This command is used to set transmission policy of igmp message
discard pass	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

Command	OLT(config)# show igmp config
View	Config view,multicast vlan view
Description	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

Command	OLT(config)# show igmp group {all ip-address <IP address> vlan <vlan-id>}
View	Config view, multicast vlan view
Description	This command is used to show igmp group.
all <IP address> <vlan-	All:show all the igmp group. vlan-id:show igmp group of specified vlan id

id>	ip-address:show igmp group of specified channel ip address
---------------	--

【Example】

Example 1: Show all the igmp group.

<pre>OLT(config)#show igmp group all ERROR:There is not any group address record. OLT(config)#</pre>

13.7.Config Multicast VLAN

Command	OLT(config)# multicast-vlan<vlan-id>
View	Config view
Description	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.
<vlan-id>	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.

<pre>OLT(config)#multicast-vlan 100 OLT(multicast-vlan-100)#</pre>

13.8.Config IGMP Match Group

Command	OLT(config)# igmp match group ip <start-ip> to-ip <end-ip>
View	multicast-vlan view
Description	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.
<start-ip>	Match start ip,it must be multicast ip address
<end-ip>	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

Command	OLT(config)# show igmp match group {<vlan-id all>}
View	multicast-vlan, config view
Description	This command is used to show igmp match group
<vlan-id all>	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

Command	OLT(config-multicast-vlan-100)# igmp program add program-index <Program-index> ip <ip-addr>
View	multicast-vlan view
Description	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.
<Program-index>	Multicast program index
<ip-addr>	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

Command	OLT(config-multicast-vlan-100)#igmp program add program-index <Program-index> batch ip <ip-addr> to-ip <ip-addr>
View	multicast-vlan view
Description	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 224.1.1.3,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

Command	OLT(config-multicast-vlan-100)#igmp program delete {all program-index <Program-index>}
View	multicast-vlan view
Description	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

Command	OLT(config-multicast-vlan-100)# igmp router-port <port-id>
View	multicast-vlan view
Description	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

Command	OLT(config-multicast-vlan-100)# show igmp router-port vlan <vlan-id>
View	multicast-vlan view
Description	This command is used to view IGMP router-port
<vlan-id>	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:ge0/0/1
OLT(config-multicast-vlan-100)#
```

13.15. Configure Unknow-multicast Forwarding Policy

Command	OLT(config-multicast-vlan-100)# igmp multicast-unknown policy {discard transparent}
View	multicast-vlan view
Description	This command is used to configure multicast-unknown service flow suppression policy. If service flow carries special-purpose multicast-unknown, thus configuring transparent. No special-purpose multicast-unknown occupies bandwidth, thus setting discard.
<discard transpa	Discard: System discard received multicast-unknown service flow

rent>	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

Command	OLT(config-multicast-vlan-100)# show igmp multicast-unknown policy vlan <vlan-id>
View	multicast-vlan view
Description	This command is used to view multicast-unknown service flow suppress policy.
<vlan-id>	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.Configure IGMP Member Port

Command	OLT(config-multicast-vlan-100)# igmp member port gpon <port-id>
View	Multicast-vlan view
Description	This command is used to configure igmp member port
<port-id>	configured igmp member port ID

【Example】

Example 1: Configure pon2 as igmp member port

```
OLT(config-multicast-vlan-100)# igmp member port gpon 0/0/2
OLT(config-multicast-vlan-100)#
```

13.18.Show multicast-valn information

Command	OLT(config)# show multicast-vlan {<vlan-id> all}
View	Config view
Description	This command is used to view multicast-vlan information
<vlan-id>	vlan-id: view the specified vlan-id member
all	all: view all

【Example】

Example 1: view multicast-vlan 100 information.

```

OLT(config)# show multicast-vlan 100
-----
multicast-vlan 100
  igmp multicast-unknown policy discard
  igmp router-port ge 0/0/1
  igmp member port gpon 0/0/2
  igmp match group ip 224.1.1.1 to-ip 224.2.2.2
-----
OLT(config)#

```

14. OLT STP Configuration

14.1. Global STP Config

Command	OLT(config)# spanning-tree {enable disable}
View	Config view
Description	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.
enable disable	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 Configuration

Command	OLT(config)# show spanning-tree info
View	Config view
Description	This command is used to show configuration info of STP

【Example】

Example 1: Show configuration info of STP

```

OLT(config)# show spanning-tree info
-----
RSTP switch status      : Disable
Bridge ID [PRI-MAC]    : 32768-e0:67:b3:00:00:a2
Root Bridge ID [PRI-MAC] : 0-00:00:00:00:00:00
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 Cost	Edge Status	Link Type	Role	State
ge0/0/1	128	235	Edge	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
xge0/0/1	128	20000	NEdge	P2P	Unknown	Down
xge0/0/2	128	20000	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

Command	OLT(config)# spanning-tree priority <Rstp bridge priority>
View	Config view
Description	This command is used to set priority of specified spanning tree for the device.Whether the device will be select 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 deciding by the priority value.
<Rstp bridge priority>	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

Command	OLT(config)# spanning-tree timer forward-delay <timer>
View	Config view
Description	This command is used to set the device forward-delay time of spanning tree.To prevent the device from occurring to temporary loop,it needs to wait for sometime in device status migrating.After setting the forward delay time,status migrate according to this time interval.Range for 4-30s.
<timer>	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

Command	OLT(config)# spanning-tree timer hello <time>
View	Config view
Description	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.
<time>	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

Command	OLT(config)# spanning-tree timer max-age <time>
View	Config view
Description	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.
<time>	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

Command	OLT(config)# spanning-tree hold-count <hold-count>
View	Config view
Description	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.
<hold-count>	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 and link-aggregation group STP Cost

Command	OLT(config)# spanning-tree { port {ge xge} <port-ID> link-aggregation group <group-ID> } cost <cost>
View	Config view
Description	This command is used to set the cost of GE port and link-aggregation group spanning tree.when there are multi links between two devices but not the root port,device determines the optimal path by the cost.
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id
<cost>	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 and link-aggregation group STP

Edged-port

Command	OLT(config)# spanning-tree { port {ge xge} <port-ID> link-aggregation group <group-ID> } edged-port enable disable
View	Config view
Description	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.
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id
enable/disable	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 and link-aggregation group STP Mcheck

Property

Command	OLT(config)# spanning-tree { port {ge xge} <port-ID> link-aggregation group <group-ID> } mcheck
View	GE view
Description	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.
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id

【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 and link-aggregation group STP

Point-to-Poing Function

Command	OLT(config)# spanning-tree { port {ge xge} <port-ID> link-aggregation group <group-ID> } point-to-point {auto true false}
View	Config view
Description	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.
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id
auto/true/false	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 and link-aggregation group STP Priority

Command	OLT(config)# spanning-tree { port {ge xge} <port-ID> link-aggregation group <group-ID> } priority <port-priority>
View	Config view
Description	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.
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id
<port-priority>	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

Command	OLT(config)# show spanning-tree port ge xge<port-id>
view	Config view

Description	This command is used to show spanning tree configuration info of GE port
<port-ID>	Port id to be set. ge: range for 0/0/1-4 xge:range for 0/0/1-2

【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

Command	OLT(config)# show spanning-tree link-aggregation group<group-id>
View	Config view
Description	This command is used to show configuration info of spanning tree link-aggregation group.
<group-ID>	Link-aggregation group id to be set. 1-8 is manual link-aggregation group id 9-16 is static link-aggregation group id

【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.OLT ACL Configuration Manage

Access Control List,which can match data packet by corresponding command,and then controls the ingress and egress data packet.The data packet match group defined by ACL can be applied to flow classification,such as the definition of qos flow classification.

According to applying purpose,ACL was distributed into several categories as follows:

Standard ACL:Set rules only based on source IP addresses.

Extension ACL:Set rules based on three or four layers info such as data packet's source ip address,destination ip address,the protocol type of ip address,protocol characteristic,etc.

Layer two ACL:Set rules based on layer two info such as source mac address,destination mac address,vlan priority,protocol type of layer two and etc.

The Switch and xPON product both support standard acl,extension acl and layer two acl.

15.1.ACL Apply Time-range

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

Command	OLT(config)# time-range <time-name><start-time>to<end-time> <days>
View	Config view
Description	This command is used to set the time range of relative time
<time-name>	Time range name,it is quoted when setting ACL rules.
<start-time>	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.
<end-time>	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.
<days>	Days:the date of relative time.Optional parameters are as follows: Mon Tue Wed Thu Fri Sat Sun Daily: weekend working-day

【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

Command	OLT(config)# time-range <time-name>from<start-time>to<end-time>
View	Config view
Description	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

Command	OLT(config)# no time-range {<time-name> <all>}
View	Config view
Description	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

Command	OLT(config)# show time-range {<time-name>/<all>}
View	Config view
Description	This command is used to show the configured time range
<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: 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.Create and Delete ACL

Command	OLT(config)# acl <acl-id > OLT(config)# no acl {<acl-id > <all>}
View	Config view
Description	This command is used to create and delete acl
< acl-id>	acl ID to be created and deleted : <2000-2999> basic acl

	<3000-4999> advanced acl <5000-5999> link acl
<all>	All acl entries

【Example】

Example 1: Create basic acl 2001

```
OLT(config)# acl 2001
ACL ID Create OK!

OLT(acl-basic-2001)#
```

Example 2: Create advanced acl 3000

```
OLT(config)# acl 3000
ACL ID Create OK!

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

Example 1: Create link acl 5000

```
OLT(config)# acl 5000
ACL ID Create OK!

OLT(acl-link-5000)#
```

Example 1: delete basic acl 2001

```
OLT(config)# no acl 2001
Number of acl: 1, success: 1

OLT(config)#
```

15.3.Config OLT Basic ACL Function

Command	OLT(acl-basic-2000)#rule<rule-id><permit deny>source<ip-address any><sour-wildcard>time-range<name>
View	basic acl view
Description	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.

<rule-id>	Rule id of ACL,the bigger the id is,the higher the priority.
<permit deny>	Deny:Deny the matched message flow passing Permit:Permit the matched message flow passing
<ip-address any>	ip-address:The source ip segment in ACL rule. any:Match to all source ip address
<sour-wildcard>	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.
<name>	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)#
```

15.4.View Basic ACL Rule

Command	OLT(acl-basic-2000)# show current
View	acl-basic view
Description	This command is use to view basic acl rule

【Example】

Example 1: View basic acl 2000 current configuration

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

Basic ACL 2000, 1 rules hold
  rule 1 permit source 192.168.5.116 0.0.0.255

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

15.5.Detele Basic ACL Rule

Command	OLT(acl-basic-2000)# no rule <rule-ID>
View	acl-basic view
Description	This command is used to delete basic acl rule. Note: acl rule applied to port need to unbind, can delete.
<rule-ID>	ACL Rule ID, range for 1-16

【Example】

Example 1: Delete basci acl rule 1

```
OLT(acl-basic-2000)# no rule 1

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

15.6.Config OLT Advanced ACL Function

Command	<p>OLT(acl-adv-3000)#</p> <p>When the protocol is TCP,the command based ipv4 for: rule rule-id<permit deny>tcp[[soure(ip-address sour-wildcard any)]][destination(ip-address sour-wildcard any)] [src-port port-list dest-portport-list] [[precedence precedence-value]][dscp dscp-value]][time-ranetime-range-name]]</p> <p>When the protocol is UDP,the command based ipv4 for: rule rule-id(permit deny)udp[[soure(ip-address sour-wildcard any)]][destination(ip-address sour-wildcard any)] [src-port port-list dest-portport-list] [[precedence precedence-value]][dscp dscp-value]][time-ranetime-range-name]]</p> <p>When the protocol is IP,the command based ipv4 for: rule rule-id(permit deny)ip[[soure(ip-address sour-wildcard any)]][destination(ip-address sour-wildcard any)] [src-port port-list dest-portport-list] [[precedence precedence-value]][dscp dscp-value]][time-ranetime-range-name]]</p> <p>When the protocol is ipinip,the command based ipv4 for: rule rule-id(permit deny)ipinip[[soure(ip-address sour-wildcard any)]][destination(ip-address sour-wildcard any)] [src-port port-list dest-portport-list] [[precedence precedence-value]][dscp</p>
----------------	---

	<p>dscp-value][time-rangetime-range-name]]</p> <p>When the protocol is icmp,the command based ipv4 for: rule rule-id(permit deny)icmp[[soure(ip-address sour-wildcard any)]] [destination(ip-address sour-wildcard any)]] [[precedence precedence-value]] [dscp dscp-value]] [time-rangetime-range-name]]</p> <p>When the protocol is other protocol,the command based ipv4 for: rule rule-id(permit deny)protocol[[soure(ip-address sour-wildcard any)]] [destination(ip-address sour-wildcard any)]] [src-port port-list dest-portport-list]] [precedence precedence-value]] [dscp dscp-value]] [time-rangetime-range-name]]</p>
View	adv acl view
Description	<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>
<rule-id>	Rule id of ACL,the bigger the id is,the higher the priority.
<permit deny>	Deny:Deny the matched message flow passing Permit:Permit the matched message flow passing
<ip-address any>	ip-address:The source ip segment in ACL rule. any:Match to all source ip address
<sour-wildcard>	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.
<time-range-name>	The effective time range of acl
<soure>	Source ip address of acl matched message
<destination>	Destination ip address of acl matched message
<precedence>	The priority of ip layer matched by acl

<dscp>	Differentiated services code point
<dest-port>	The destination port of TCP or UDP matched by ACL
<src-port>	The source port of TCP or UDP matched by ACL
<ipinip>	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)#
```

15.7.View Advanced ACL Rule

Command	OLT(acl-adv-3000)# show current
View	acl-adv view
Description	This command is used to view advanced acl rule.

【Example】

Example 1: View advanced acl 3000 current configuration

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

Advanced ACL 3000, 2 rules hold
  rule 2 permit icmp source any precedence 0
  rule 1 permit 2 source 192.168.7.102 0.0.0.255 destination any

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

15.8.Delete or modify Advanced ACL Rule

Command	OLT(acl-adv-3000)# no rule <rule-ID> {source destination dscp src-port dest-port time-range precedence all}
View	acl-adv view

Description	This command is used to delete or modify advanced acl rule. Note: acl rule applied to port need to unbind, can delete.
<rule-ID>	ACL Rule ID, range for 1-16

【Example】

Example 1: Delete source IP in advanced acl 3000 rule 1

```
OLT(acl-adv-3000)# no rule 1 source
OLT(acl-adv-3000)#
```

15.9.Config OLT Link ACL Function

Command	OLT(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>]}
View	Link acl view
Description	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.
<rule-id>	Rule id of ACL,the bigger the id is,the higher the priority.
<permit deny>	Deny:Deny the matched message flow passing Permit:Permit the matched message flow passing
<destination>	The destination mac address of message matched by acl
<source>	The source mac address of message matched by acl
<mac-addr>	Mac address
<mac-wildcard>	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.

<code><time-range-name></code>	The effective time range of acl
<code><inner-cos-value></code>	Match the inner vlan cos value of second layer message
<code><cos-value></code>	Match the outer vlan cos value of second layer message
<code><vlan-id></code>	Match the outer vlan id
<code><inner-vlan-id></code>	Match the inner vlan id
<code><Ethernet-type></code>	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)#
```

15.10.View Link ACL Rule

Command	OLT(acl-link-5000)# show current
View	acl-link view
Description	This command is used to view link acl rule.

【Example】

Example 1: View link acl 5000 current configuration.

```
OLT(acl-link-5000)# show current

Link ACL 5000, 1 rules hold
  rule 1 permit vlan 100

OLT(acl-link-5000)#
```

15.11.Delete Link ACL Rule

Command	OLT(acl-link-5000)# no rule <rule-ID>
View	acl-link view
Description	This command is used to delete link acl rule. Note: acl rule applied to port need to unbind, can delete.
<rule-ID>	ACL Rule ID, range for 1-16

【Example】

Example 1: Delete link acl 5000 rule 1

```
OLT(acl-link-5000)# no rule 1

OLT(acl-link-5000)#
```

15.12.Show OLT ACL Configuration

Command	OLT(config)# show acl {<acl-id> all detail [<acl-id> all]}
View	Config view
Description	This command is used to show the configuration of acl.
<acl-id>	ACL id to be show
<all>	Show all the acl
<detail>	Detail info

【Example】

Example 1: Show the configuration fo all acl

```
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)#
```

15.13.Modify OLT ACL Rule ID

Command	OLT(configacl-basic-2000)# rule<ruld id> {up down move to}
View	basic acl view,adv acl view,Link acl view

Description	<p>acl acl-id down:The rule id is reduced by one without changing the rule content</p> <p>acl acl-id up:Add one for rule id without changing the rule content</p> <p>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)</p>
<ruId id>	Rule id
<up down move to>	<p>down:The rule id is reduced by one without changing the rule content</p> <p>up:Add one for rule id without changing the rule content</p> <p>move to:Modify the value of rule-id to a specified rule id without change the rule content.</p>

【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 Configuration

16.1.Config Traffic Control Based On ACL Rule

16.1.1.Config Packet Filter Based On ACL Rule

Command	OLT(config)# packet-filter {inbound outbound} <acl-id> rule-id <rule-id> port {ge pon xge} <port-list>
View	Config view
Description	<p>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.</p> <p>“no packet-filter.....”is used to delete the acl rule in specified port.</p>
<inbound outbound>	<p>inbound:The ingress flow</p> <p>Outbound:The egress flow</p>
<acl-id>	ACL id
<rule-id>	Rule id in acl

<port-list>	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)#
```

16.1.2.Changes Traffic DSCP Based On ACL Rule

Command	OLT(config)# traffic-dscp {inbound outbound} <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> remark-dscp <remark-dscp-value>
View	Config view
Description	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.
<inbound outbound >	inbound:The ingress flow Outbound:The egress flow
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<remark-dscp-value>	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)#

```

16.1.3. Config Traffic Mirror Based On ACL Rule

Command	OLT(config)# traffic-mirror inbound <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> to {ge xge} <port-list>
View	Config view
Description	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.
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list

【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)#

```

16.1.4. Config Traffic Limit Based On ACL Rule

Command	OLT(config)# traffic-limit {inbound outbound} <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> cir <rate-value> pir <rate-value> exceed {drop remark-dscp}
View	Config view
Description	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.
<inbound outbound >	inbound:The ingress flow Outbound:The egress flow
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<drop remark-dscp>	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)#
```

16.1.5.Add Traffic Outer VLAN Based On ACL Rule

Command	OLT(config)## traffic-outervlan inbound <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> vlan <vlan-id>
View	Config view
Description	This command is used to add outer vlan for acl matched folw in specified port. “no traffic-outervlan.....”is used to cancel the command mention above.
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<vlan-id>	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)#
```

16.1.6.Translate Traffic VLAN Based On ACL Rule

Command	OLT(config)## traffic-translate inbound <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> vlan <vlan-id>
View	Config view
Description	This command is used to translate the vlan id of acl matched port's egress or ingress flow into new vlan id.
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<vlan-id>	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)#
```

16.1.7.Modify Traffic VLAN Priority Based On ACL Rule

Command	OLT(config)## traffic-priority inbound <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> remark-priority <pri-value>
View	Config view
Description	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.

<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	Port list
<pri-value>	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)#
```

16.1.8. Config Traffic Redirect Based On ACL Rule

Command	OLT(config)## traffic-redirect inbound <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> to {ge xge} <port-list>
View	Config view
Description	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)
<acl-id>	ACL id
<rule-id>	Rule id in acl
<port-list>	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)#

```

16.1.9. Modify Traffic TOS Value Based On ACL Rule

Command	OLT(config)# traffic-tos {inbound outbound} <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list> remark-tos <Tos value>
View	Config view
Description	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-list>	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)#

```

16.1.10. Clear Traffic Statistic Based ON ACL Rule

Command	OLT(config)# traffic-statistic clear-counters {inbound outbound} <acl-id> rule-id <rule-id> port {ge gpon xge} <port-list>
View	Config view
Description	This command is used to clear traffic statistic based on acl rule.
<acl-id>	ACL id
<rule-id>	ACL Rule ID

<code><port-list></code>	Port list
--------------------------------	-----------

【Example】

Example 1: Clear ge4 traffic statistic based on acl 2000

```
OLT(config)# traffic-statistic clear-counters outbound 2000 port ge 0/0 4

OLT(config)#
```

16.1.11.Show Port Packet-filter Policy Configuration

Command	OLT(config)# <code>show packet-filter<all port></code>
View	Config view
Description	This command is used to show packet-filter strategy in the port
all port	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)#
```

16.1.12.Show Port QOS Configuration Information

Command	OLT(config)# <code>show qos-info {all traffic-dscp traffic-tos traffic-limit traffic-mirror traffic-outervlan traffic-priority traffic-redirect traffic-translate } port {ge gpon xge} <port-list></code>
View	Config view
Description	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)#

```

16.2.Config OLT Global QOS mode

Command	OLT(config)# qos global mode {device-based port-based}
View	Config view
Description	This command is used to set global QOS mode
device-based port-based	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)#

```

16.3.Config OLT QOS Queue**16.3.1.Config OLT QOS Queue Mapping Mode**

Command	OLT(config)# qos cosq-map mode {cos diffserv tos}
View	Config view
Description	This command is used to set the mapping mode of system queue
<cos diffserv tos>	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

Command	OLT(config)# qos cosq-map cos0 <Queue id> cos1 <Queue id> cos2 <Queue id> cos3 <Queue id> cos4 <Queue id> cos5 <Queue id> cos6 <Queue id> cos7 <Queue id>
View	Config view
Description	This command is used to set the mapping table of system queue and 802.1p
<Queue id>	Queue id,range for 0-3

【Example】

Example 1: Set the mapping table of system queue and 802.1p

```
OLT(config)# qos cosq-map cos0 1 cos2 0 cos3 2 cos4 1 cos1 3 cos5 0 cos6 2 cos7 3
OLT(config)#
```

16.3.3.Config OLT QOS Queue Scheduled Mode

Command	OLT(config)# qos queue-scheduler strict-priority OLT(config)# qos queue-scheduler wrr <queue0-weight queue1-weight queue2-weight queue3-weight > OLT(config)# qos queue-scheduler bandwidth cos0 <bandwidth> cos1 <bandwidth> cos2 <bandwidth> cos3 <bandwidth>
View	Config view
Description	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

	<p>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>
strict-priority	<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>
wrr	<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>
WRR+PQ	<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 0-3 is 20 30 35 15.

```
OLT(config)# qos queue-scheduler wrr 20 30 35 15
```



```
OLT(config)#
```

16.3.4.Show OLT QOS Queue Schedule Mode

Command	OLT(config)# show qos queue-schedule
View	Config view
Description	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 : WRR

-----
Queue  Scheduler Mode      WRR Weight   Bandwidth(kbps)
-----
0      WRR                    20           -
1      WRR                    30           -
2      WRR                    35           -
3      WRR                    15           -
-----

Queue map mode : Cos

-----
Priority  Queue
-----
0        1
1        3
2        0
3        2
4        1
5        0
6        2
7        3
-----

OLT(config)#
```

16.4.OLT Port QOS Queue Configuration

16.4.1.Config OLT Port QOS Queue Mapping Mode

Command	OLT(config)# qos cosq-map port-based {gpon ge xge} <port-id> mode {cos diffserv tos}
View	Config view
Description	This command is used to set mapping mode of port-based queue
<cos diffserv tos>	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 ge1 queue as 802.1p

```
OLT(config)# qos global mode port-based

OLT(config)#qos cosq-map port-based ge 0/0 1 mode cos

OLT(config)#
```

16.4.2.Config OLT Port QOS Queue Mapping Mode Based On 802.1p

Command	OLT(config)# qos cosq-map port-based {gpon ge xge} <port-id> to-pbits cos cos0 <Queue id> cos1 <Queue id> cos2 <Queue id> cos3 <Queue id> cos4 <Queue id> cos5 <Queue id> cos6 <Queue id> cos7 <Queue id>
View	Config view
Description	This command is used to set the mapping table between port-based queue and 802.1p
<Queue id>	Queue id,range for 0-3

【Example】

Example 1: Set the mapping table between ppon1 queue and 802.1p

```
OLT(config)# qos cosq-map port-based gpon 0/0 1 mode cos
OLT(config)# qos cosq-map port-based gpon 0/0 1 to-pbits cos cos0 0 cos1 3 cos2 2
cos3 1 cos4 2 cos5 1 cos6 3 cos7 2
```

OLT(config)#

16.4.3.Config OLT Port QOS Queue Schedule Mode

Command	<pre>OLT(config)# qos queue-scheduler port-based {gpon ge xge} <port-id> strict-priority OLT(config)#qos queue-scheduler port-based {gpon ge xge} <port-id> wrr <queue0-weight queue1-weight queue2-weight queue3-weight > OLT(config)#qos queue-scheduler port-based {gpon ge xge} <port-id> bandwidth queue0 <bandwidth> queue1 <bandwidth> queue2 <bandwidth> queue3 <bandwidth></pre>
View	Config view
Description	<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>
strict-priority	<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>
wrr	<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</p>

	<p>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>
WRR+PQ	<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 0-3 is 20 25 30 25 .

```
OLT(config)#qos queue-scheduler wrr 20 25 30 25
OLT(config)#
```

16.4.4.Show OLT Port QOS Queue Schedule Mode

Command	OLT(config)# show qos queue-schedule port-based {epon ge xge} <port-id>
View	Config view
Description	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 gpon 0/0/1

Queue scheduler mode on gpon 0/0/1: WRR

-----
```

Queue	Scheduler Mode	WRR Weight	Bandwidth(kbps)
0	WRR	20	-
1	WRR	25	-
2	WRR	30	-
3	WRR	25	-

Queue map mode on gpon 0/0/1: Cos

Priority	Queue
0	0
1	3
2	2
3	1
4	2
5	1
6	3
7	2

OLT(config)#

17.OLT DHCP Function Configuration

17.1.OLT DHCP-Snooping Function Configuration

17.1.1.Enable or Disable DHCP-Snooping Function

Command	OLT(config)# DHCP-Snooping enable disable
View	Config view
Description	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.
enable disable	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

Command	OLT(config)# show dhcp-snooping configuration
View	Config view
Description	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 : Type4(ONU+OLT MAC)
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
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

Command	OLT(config)# dhcp-snooping vlan<vlan-lis>
View	Config view
Description	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-lis> ”is used to delete the

	specified monitoring vlan.
<vlan-lis>	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

Command	OLT(config)# dhcp-snooping trust port <PORT-LIST>
View	Config view
Description	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.
<PORT-LIST >	Port type Gpon:Pon port Ge:Giga uplink port Xge:10 giga uplink port Lag:link aggregation group

【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

Command	OLT(config)# dhcp-snooping chaddr-check enable disable
View	Config view
Description	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.

enable disable	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

Command	OLT(config)# dhcp-snooping limit-rate <Rate> <PORT-LIST>
View	Config view
Description	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
<PORT-LIST>	Port type Gpon:Pon port Ge:Giga uplink port Xge:10 giga uplink port Lag:link aggregation group

【Example】

Example 1The rate limitation of DHCP request message received by GE1 is 20pps.

```
OLT(config)#dhcp-snooping limit-rate 20 port ge 0/0 1

OLT(config)#
```

17.1.7.Enable or Disable DHCP-Snooping Opton82 Function

Command	OLT(config)# dhcp-snooping option82 enable disable
View	Config view
Description	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 1Enable dhcp-snooping option82 function

OLT(config)#dhcp-snooping option82 enable
OLT(config)#

17.1.8.Config DHCP-Snooping Option82 Forwarding Policy

Command	OLT(config)# dhcp-snooping option82 policy {keep drop replace}
View	Config view
Description	This command is used to set the option82 forwarding policy of dhcp request message.
keep	Transmit option82 dhcp message according to the original shape
drop	Discard the option82 dhcp message
replace	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

Command	OLT(config)# dhcp-snooping option82 format <type1 type2 type3 type4 type5>
View	Config view
Description	This command is used to set the format of dhcp-snooping option82
<type1 type2 type3 type4 type5>	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

Command	OLT(config)# dhcp-snooping binding <MAC address> <IP address> <VLAN ID> <port>
View	Config view
Description	This command is used to set the binding strategy of dhcp request message
<MAC address>	MAC in static binding table,format for AA:BB:CC:DD:EE:FF
<IP address>	IP in static binding table,format for A.B.C.D
<VLAN ID>	vlan in static binding table,range for<1-4094>
<port>	Port type Gpon: 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 GE1.

```
OLT(config)#dhcp-snooping binding 00:0f:1f:c5:10:08 192.168.1.101 100 port ge 0/0/1
```

```
OLT(config)#
```

17.1.11.Delete DHCP-Snooping Bind-table

Command	OLT(config)# dhcp-snooping bind-table clear {all static dynamic ip-address vlan}
View	Config view
Description	This command is used to clear dhcp-snooping bind-table.
all	Clear all the dhcp-snooping bind-table entry.

static	Clear the static dhcp-snooping bind-table entry.
dynamic	Clear the dynamic dhcp-snooping bind-table entry.
ip-address	Delete the bind-table by specified ip
vlan	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

Command	OLT(config)# dhcp-snooping bind-table write-delay <Delay time>
View	Config view
Description	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
<Delay time>	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

Command	OLT(config)# dhcp-snooping bind-table delete-time <time>
View	Config view
Description	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.
<time>	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

Command	OLT(config)# dhcp-snooping bind-table write-to-flash
View	Config view
Description	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

Command	OLT(config)# dhcp-snooping bind-table save-to-tftp<IP address>
View	Config view
Description	This command is used to write the dhcp-snooping bind-table to the flash by manually and save it to the server
<IP address>	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

Command	OLT(config)# show dhcp-snooping bind-table {all static dynamic ip-address vlan}
----------------	--

View	Config view
Description	This command is used to show dhcp-snooping bind-table according to the type.
all	Show all the dhcp-snooping bind-table entry.
static	Show the static dhcp-snooping bind-table entry.
dynamic	Show the dynamic dhcp-snooping bind-table entry.
Ip-address	Show the bind-table by specified ip
vlan	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: 100 (s)
-----
 MacAddress          IpAddress          Vlan  Port          onuid  gemid
Lease(s)  Type    Status
-----
 00:0F:1F:C5:10:08  192.168.1.101     100   pon0/0/2      0      0      -
Static   Valid
-----
OLT(config)#

```

17.1.17.Enable or Disable DHCP-Snooping arp-reply-fast

Command	OLT(config)# dhcp-snooping arp-reply-fast enable disable
View	Config view
Description	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.
enable disable	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

Command	OLT(config)# dhcp-snooping arp-detect enable disable
View	Config view
Description	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.
enable disable	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 disable
OLT(config)#

17.2.OLT DHCP-Client Function Configuration

17.2.1.Enable or Disable DHCP-Client Function

Command	OLT(config-interface-vlanif-100)# dhcp-client enable disable
View	Vlanif view
Description	This command is used to enable or disable dhcp client function
enable disable	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)#
```

17.2.2.Config DHCP-Client Manual Renew IP Address

Command	OLT(config-interface-vlanif-100)# dhcp-client renew
View	Vlanif view
Description	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)#
```

17.2.3.Config DHCP-Client Manual Release IP Address

Command	OLT(config-interface-vlanif-100)# dhcp-client release
View	Vlanif view
Description	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)#
```

17.2.4.Config DHCP-Client Option60

Command	OLT(config-interface-vlanif-100)# dhcp-client option60 <option60>
View	Vlanif view
Description	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.
<option60>	The info of option60

【 Example 】

Example1: Set option60 of dhcp client in vlanif 100 as “ test ” .

```
OLT(config-interface-vlanif-100)#dhcp-client option60 test

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

17.2.5. Show DHCP-Client Configuration

Command	OLT(config)# show dhcp-client
View	Config view
Description	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)#
```

17.2.6. Show DHCP-Client Option60 Configuration

Command	OLT(config)# show dhcp-client option60 <option60>
View	Config view
Description	This command is used to show dhcp-client option60 info of each vlanif interface.
<option60>	option60 处的配置信息。

【 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. Add or Delete Aggregation Group Member

Command	OLT(config-interface-aggregation)# member<add/delete><ge/xge> 0/0 <port-list> link-aggregation group<group-id>
View	link-aggregation view
Description	Device supports 16 aggregation group, this command is used to add or delete member port in corresponding aggregation group.
<port-list>	Port id
<group-id>	Group id, 1-8 is static aggregation group, 9-16 is dynamic aggregation group

【 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)#
```

18.2.Enable or Disable Aggregation Group Flow-control

Function

Command	OLT(config-interface-aggregation)# flow-control <group-id> <enable/disable>
View	link-aggregation view
Description	This command is used to enable or disable aggregation group flow control function
<group-id>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group

【Example】

Example 1:Enable the flow control function of aggregation group1

```
OLT(config-interface-aggregation)#flow-control 1 enable

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

18.3.Config LACP System Priority

18.3.1.Config LACP System Priority

Command	OLT(config-interface-aggregation)# lACP set system priority <priority value>
View	link-aggregation view
Description	This command is used to set system priority
<priority value>	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)#
```

18.3.2. Set Link-Aggregation Group Port Priority

Command	OLT(config-interface-aggregation)# link-aggregation port-priority <ge/xge>0/0 <port-list> <priority value>
View	link-aggregation view
Description	This command is used to set port priority
<port-list>	Port list to be set
<priority value>	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)#
```

18.3.3. Show LACP System Priority

Command	OLT(config-interface-aggregation)# show lacp system priority
View	link-aggregation view
Description	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)#
```

18.3.4. Show Link-Aggregation Group Priority

Command	OLT(config-interface-aggregation)# show link-aggregation port-priority <ge/xge> 0/0 <port-list> <lacp/manual>
View	link-aggregation view
Description	This command is used to show port priority of link-aggregation.
<port-list>	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)#
```

18.4.Config Link-Aggregation Group Frame-max

Command	OLT(config-interface-aggregation)# frame-max <group-id> <frame-max value>
View	link-aggregation view
Description	This command is used to set link-aggregation group frame-max value
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<mtu value>	mtu value,range for 328-12288

【 Example 】

Example 1:Set the link-aggregation group 1 frame-max value as 2000

```
OLT(config-interface-aggregation)#frame-max 1 2000
```

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

18.5.Config Link-Aggregation Group Load Balance Mode

18.5.1.Config Link-Aggregation Group Unicast Load Balance Mode

Command	OLT(config-interface-aggregation)# link-aggregation group <group-id> unicast balance {dest-ip dest-mac source-dest-ip source-dest-mac source-ip source-mac }
View	link-aggregation view
Description	This command is used to set unicast data balance mode of link aggregation
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<balance>	dest-ip:Load sharing unicast according to destination ip address dest-mac:Load sharing unicast according to destination mac address

	<p>source-dest-ip:Load sharing unicast according to source and destination ip address</p> <p>source-dest-mac:Load sharing unicast according to source and destination mac address</p> <p>source-ip:Load sharing unicast according to source ip address</p> <p>source-mac:Load sharing unicast according to source mac address(default)</p>
--	--

【 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)#
```

18.5.2.Config Link-Aggregation Group Non-unicast Load BalanceMode

Command	OLT(config-interface-aggregation)# link-aggregation group non-unicast balance {dest-mac source-dest-mac source-mac source-port }
View	link-aggregation view
Description	This command is used to set unicast data balance mode of link aggregation
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<balance>	<p>dest-mac:Load sharing non-unicast according to destination mac address</p> <p>source-dest-mac:Load sharing non-unicast according to source and destination mac address</p> <p>source-mac:Load sharing non-unicast according to source mac address(default)</p> <p>Source-port:Load sharing non-unicast according to source port(default)</p>

【 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)#
```

18.6.Config Link-Aggregation Group Name

Command	OLT(config-interface-aggregation)# port-name <group-id> <port name>
View	link-aggregation view
Description	Set the name of link-aggregation group
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<port name>	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)#
```

18.7.Clear Link-Aggregation Group Statistics

Command	OLT(config-interface-aggregation)# reset statistics port <group-id>
View	link-aggregation view
Description	This command is used to clear the link-aggregation statistic data
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 Example 】

Example 1:Clear the statistic data of link-aggregation group 1.

```
OLT(config-interface-aggregation)#reset statistics port 1
OLT(config-interface-aggregation)#
```

18.8.Enable or Disable Link-Aggregation Group

Command	OLT(config-interface-aggregation)#<no> shutdown<group-id>
View	link-aggregation view
Description	Open or shutdown link-aggregation group,open by default.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 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)#
```

18.9.Link-Aggregation Group STP Configuration

18.9.1.Config Link-Aggregation STP Cost

Command	OLT(config-interface-aggregation))# spanning-tree cost <group-id> <cost>
View	link-aggregation view
Description	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.
<group-id>	Group id,1-8 is static aggregation group,9-16 is dynamic aggregation group
<cost>	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))#
```

18.9.2.Enable or Disable Link-Aggregation STP Edged-port

Command	OLT(config-interface-aggregation))# spanning-tree edged-port <group-id> enable/disable
View	link-aggregation view
Description	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.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
enable/disable	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))#
```

18.9.3.Config Link-Aggregation STP Mcheck Property

Command	OLT(config-interface-aggregation))# spanning-tree mcheck<group-id>
View	link-aggregation view
Description	This command is used to set the RSTP mcheck property of link-aggregation group.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.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【Example】

Example 1:Set mcheck property of link-aggregation group1.

```
OLT(config-interface-aggregation))#spanning-tree mcheck 1

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

18.9.4.Config Link-Aggregation STP Point-to-Point Function

Command	OLT(config-interface-aggregation))# spanning-tree point-to-point <group-id> auto/true/false
View	link-aggregation view

Description	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 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.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
auto/true/false	auto:Set the point-to-point link as auto-mode true:Connect link-aggregation group to point-to-point link false:Disconnect link-aggregation group to point-to-point link

【 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))#
```

18.9.5.Config Link-Aggregation STP Priority

Command	OLT(config-interface-aggregation))# spanning-tree priority <group-id> <port-priority>
View	link-aggregation view
Description	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.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<port-priority>	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))#
```

18.10.Link-Aggregation Group VLAN Configuration

18.10.1.Config Link-Aggregation Group VLAN Mode

Command	OLT(config-interface-aggregation)# vlan mode <group-id> access/hybrid/trunk
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
access/hybrid/trunk	Access:This kind of port only belongs to one vlan,generally it is used to connect to computer. 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. 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.

【 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)#
```

18.10.2.Config Link-Aggregation Group Native-vlan(access)

Command	OLT(config-interface-aggregation)# vlan native-vlan <group-id> <vlan-ID>
View	link-aggregation view
Description	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 Appendix1

<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<vlan-ID>	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)#
```

18.10.3.Config Link-Aggregation Group Native-vlan Priority

Command	OLT(config-interface-aggregation)# vlan native-vlan-priority <group-id> <priority>
View	link-aggregation view
Description	This command is used to set native vlan priority of link-aggregation group,the default is 0.
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<priority>	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)#
```

18.10.4.Config Link-Aggregation Group Access Mode VLAN

Command	OLT(config-interface-aggregation)# vlan access <group-id> <vlan-id>
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<vlan-id>	Access VLAN ID,range for 1-4094

【 Example 】

Example 1:Set access vlan of link-aggregation group 1 as 100.

```
OLT(config-interface-aggregation)#vlan access 1 100

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

18.10.5.Config Link-Aggregation Group Hybrid Mode VLAN

Command	OLT(config-interface-aggregation)# vlan hybrid <group-id> tagged/untagged <vlan-list>
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
Tagged/untagged	tagged:Add corresponding vlan tag for egress message untagged:Peel off corresponding vlan tag for egress message
<vlan-list>	VLAN ID,range for 1-4094.format is 1,11-27,100

【 Example 】

Example 1:Add untagged hybrid vlan 10-15 for link-aggregation group 1.

```
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 group 1.

```
OLT(config-interface-aggregation)#vlan hybrid 1 tagged 101
lag1:hybrid vlan added,failed:0,success:1

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

18.10.6.Delete Link-Aggregation Group Hybrid Mode VLAN

Command	OLT(config-interface-aggregation)# no vlan hybrid <group-id> tagged/untagged <vlan-list>
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
Tagged/untagged	tagged:Add corresponding vlan tag for egress message untagged:Peel off corresponding vlan tag for egress message
<vlan-list>	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)#
```

18.10.7.Config Link-Aggregation Group Trunk Mode VLAN

Command	OLT(config-interface-aggregation)# vlan trunk <group-id><vlan-list>
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<vlan-list>	VLAN ID,range for 1-4094.format is 1,11-27,100

【 Example 】

Example 1:Add trunk vlan 10-15 for link-aggregation group 1.

```
OLT(config-interface-aggregation)#vlan trunk 1 10-15
```

```
lag1:trunk vlan allowed,failed:0,success:6
```

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

18.10.8.Delete Link-Aggregation Group Trunk Mode VLAN

Command	OLT(config-interface-aggregation)# no vlan trunk <group-id><vlan-list>
View	link-aggregation view
Description	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 Appendix1
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group
<vlan-list>	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)#
```

18.11.Show Link-Aggregation Group Information

18.11.1.Show Link-Aggregation Group VLAN Information

Command	OLT(config-interface-aggregation)# show port vlan <group-id>
View	link-aggregation view
Description	This command is used to show vlan info of link-aggregation group
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 Example 】

Example 1: Show vlan info of link-aggregation group 1

```
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)#
```

18.11.2.Show Link-Aggregation Group STP Information

Command	OLT(config-interface-aggregation)# show port spanning-tree<group-id>
----------------	---

View	link-aggregation view
Description	This command is used to show spanning tree info of link-aggregation group
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 Example 】

Example 1: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)#

```

18.11.3.Show Link-Aggregation Group Port Status

Command	OLT(config-interface-aggregation)# show port state <group-id>
View	link-aggregation view
Description	This command is used to show port state of link-aggregation group
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 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)#

```

18.11.4.Show Link-Aggregation Group Statistics Information

Command	OLT(config-interface-aggregation)# show statistics port<group-id>
View	link-aggregation view
Description	This command is used to show statistic info of link-aggregation group
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 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)#

```

18.11.5.Show Link-Aggregation Group Config Information

Command	OLT(config-interface-aggregation)# show link-aggregation group <group-id>
View	link-aggregation view
Description	This command is used to show link-aggregation group matching state
<group-id>	Group id,1-8 is manual aggregation group,9-16 is static aggregation group

【 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 Profile Configuration

19.1.OLT DBA Profile Configurations

19.1.1.Create or Delete DBA Profile

Command	OLT(config)# dba-profile profile-id <profile-id > profile-name <profile-name> OLT(config)# no dba-profile profile-id <profile-id > profile-name <profile-name>
View	Config view
Description	This command is used to add a dba-profile and enter dba-profile editing view.The deployment and control of uplink Bandwidth of ONT 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.

<profile-id>	DBA template number, in the range of 0-128. If not specified, the system automatically assigns the smallest idle template number. Template 0 is the default template of the system, and the ONT automatically matches the template.
<profile-name>	DBA template name, length supports 1-16 characters. If not specified, the system automatically adopts the default name "dba-profile_x", where "x" is the number of the DBA template.

【 Example 】

Example 1: Create a new dba template with an id of 10. The template name is named by default and enters the DBA template configuration mode.

```
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)#
```

19.1.2.Config DBA Profile Bandwith

Command	<p>OLT(config-dba-profile-10)#type1 fix<fixed bandwidth></p> <p>OLT(config-dba-profile-10)#type2 assure<assure bandwidth></p> <p>OLT(config-dba-profile-10)#type3 assure<assure bandwidth>max<max bandwidth></p> <p>OLT(config-dba-profile-10)#type4 max<max bandwidth></p> <p>OLT(config-dba-profile-10)#type5 fix<fixed bandwidth> assure<assure bandwidth>max<max bandwidth></p>
View	DBA profile view
Description	This command is used to configure the type of DBA control bandwidth and the size of the bandwidth.
<type1>	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)#
```

19.1.3.Show OLT DBA Profile Current Configuration

Command	OLT(config-dba-profile-10)# show dba-profile current
View	DBA profile view
Description	This command displays the detailed configuration information of the dba profile currently configured.

【Example】

Example 1: View the dba profile details of the currently created id 10.

```
OLT(config-dba-profile-10)# show dba-profile current
-----
Profile ID      : 10
Profile Name    : dba-profile_10
Type            : 1
Fix(kbps)      : 9984
Assure(kbps)   : 0
Max(kbps)      : 0
Bind Times     : 0
-----
```

19.1.4.Commit DBA Profile Config

Command	OLT(config-dba-profile-10)# commit
View	DBA pprofile view
Description	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)#
```

19.1.5.Show OLT DBA Profile Information

Command	OLT(config)# show dba-profile all profile-id <profile-id > profile-name <profile-name>
View	Config view
Description	This command is used to query the DBA (Dynamic Bandwidth Assignment) profile information in the system. The DBA profile describes the traffic parameters of the line. The ONT allocates dynamic bandwidth allocation by binding the DBA profile to improve the uplink bandwidth utilization.
all	View all dba profile in the OLT.
profile-id <profile-id >	View the dba profiel information of the specified id in the OLT.

profile-name <profile-name>	View the dba profile information of the specified name in the OLT. Profile name to be show.
--	--

【Example】

Example 1: Show all the dba profile in the OLT.

OLT(config)# show dba-profile all						

Profile ID	Profile Name	Type	Fix	Assure (kbps)	Max (kbps)	Bind (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)#						

19.2.ont-lineprofile Configuraton

19.2.1.Create ont-lineprofile

Command	OLT(config)# ont-lineprofile gpon profile-id <profile-id > profile-name <profile-name>
View	Config view
Description	This command is used to create and enter the ont-lineprofile mode or enter the created ont-lineprofile mode. The ont-lineprofile describes the binding relationship between the T-CONT and the DBA template, the QoS mode of the service flow, and the mapping between the GEM Port and the ONT side. It is mainly used to configure DBA, T-CONT, and GEM Port related information. Related attributes are centrally configured in the lineprofile For the same ONT, you only need to configure it once to save configuration workload. After the command is successfully executed, the corresponding ont-lineprofile configuration mode is entered, and the related attributes of the ONT line template can be set.
<profile-id>	The number of the ont-lineprofile which identifies a lineprofile, ranging from 0 to 512. When not specified, the system automatically assigns the smallest idle template number. ont-lineprofile 0 is the

	default profile of the system, and the ONT automatically matches the lineprofile.
<profile-name>	The name of the ONT lineprofile. The name length supports 1-16 characters. The default profile name is lineprofile_x, where "x" is replaced with the actual profile number.

【 Example 】

Example 1: Create and enter ont-lineprofile 10.

```
OLT(config)# ont-lineprofile gpon profile-id 10

OLT(config-ont-lineprofile-10)#
```

19.2.2.Create or Delete tcont and DBA Profile Binding in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# tcont <tcont-id> dba-profile-id <profile-id> dba-profile-name <profile-name> OLT(config-ont-lineprofile-10)# no tcont 1
View	ont-lineprofile view
Description	This command uses the tcont in the line profile to bind the DBA bandwidth to allocate DBA bandwidth to the ONT service bound to the line profile. If you need to delete tcont, you can add no in front.
<tcont-id>	Specifies the created tcont id, ranging from 0 to 7.
<profile-id>	Specifies the dba profile id to be bound to tcont. The dba profile needs to be created in advance. The value ranges from 0 to 128.
<profile-name>	Specify the name of the dba profile to be bound to tcont. The dba profile needs to be created in advance.

【 Example 】

Example 1: In ont-lineprofile, create tcont id 1 and bind the DBA profile 10

```
OLT(config-epon-lineprofile-10)#llid 1 dba-profile-id 10

OLT(config-epon-lineprofile-10)#
```

Example 2: In ont-lineprofile 10, delete tcont id.

```
OLT(config-ont-lineprofile-10)# no tcont 1

OLT(config-ont-lineprofile-10)#
```

19.2.3.Config GEM Mapping Mode in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# mapping-mode {priority vlan vlan-priority}
View	ont-lineprofile view
Description	This command is used to create a GEM mapping mapping mode and is associated with the subsequent GEM mapping creation,If the mapping mode is vlan, the subsequent GEM mappings are also mapped to vlans.
priority	Specify the mapping mode as the vlan priority. If this mode is selected, the subsequent GEM mapping should also be mapped to the vlan priority.
vlan	The mapping mode is set to vlan. If this mode is selected, the following GEM mapping should also be mapped to vlan. The default is to change the mode. You can modify it without special circumstances.
vlan-priority	Specify the mapping mode as vlan+vlan priority. If this mode is selected, the following GEM mapping should also be mapped to vlan+vlan priority.

【 Example 】

Example 1: In the ont-lineprofile 10, set the mapping mode of GEM mapping to vlan.

```
OLT(config-ont-lineprofile-10)# mapping-mode vlan
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.4.Create or Delete GEM Port in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# gem add <gem-id> tcont <tcont-id> [{ encrypt <switch> gem-car <profile-id>} OLT(config-ont-lineprofile-10)# gem delete <gem-id>
View	ont-lineprofile view
Description	This command is used to create a GEM Port and bind the GEM Port and tcont together.If you want to delete the GEM Port, you can use the gem delete command.
<gem-id>	Specifies the GEM port id to be created, ranging from 1 to 30.
<tcont-id>	Specifies the tcont id to be bound to the GEM port. The value ranges from 1 to 7.
encrypt <switch>	Configure the GEM Port downstream data encryption of the ONT. On: Enable ONEM GEM Port downlink data encryption Off: Turn off the GEM Port downlink data encryption of the ONT.

gem-car <profile-id>	Configure the traffic-table-id of the GEM port of the ONT. You need to create a traffic-table in advance. The value ranges from 1 to 256.
---	---

【 Example 】

Example 1: In ont-lineprofile 10, create a GEM Port id 1 and bind tcont id1.

```
OLT(config-ont-lineprofile-10)# gem add 1 tcont 1
```

```
OLT(config-ont-lineprofile-10)#
```

Example 2: In ont-lineprofile 10, delete GEM Port id 1

```
OLT(config-ont-lineprofile-10)# gem delete 1
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.5.Create or Delete GEM Mapping in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# gem mapping <gem-id> <mapping-id> {vlan <vlan-id> priority < 802.1p>} OLT(config-ont-lineprofile-10)# no gem mapping <gem-id> <mapping-id>
View	ont-lineprofile view
Description	This command is used to create a GEM mapping and bind the GEM mapping to the GEM port. The GEM mapping is bound to the vlan on the user side. The vlan on the user side knows which ONU and PON port to use for vlan data. Forward. If you want to delete GEM Mapping, you can add the no command in front.
<gem-id>	Specifies the GEM port id to be bound to the GEM mapping. The value ranges from 1 to 30.
<Mapping-id>	Specifies the GEM mapping id to be created, ranging from 1 to 8.
vlan <vlan-id>	Specifies the user-side vlan id to be mapped for GEM mapping. Value range 1-4094 or untagged
priority < 802.1p>	Specifies the vlan priority of the user side to be mapped on the GEM mapping. The value ranges from 0 to 7.

【 Example 】

Example 1: In the ont-lineprofile 10, create a GEM mapping id7 bound to GEM Port 1 and map vlan 100.

```
OLT(config-ont-lineprofile-10)# gem mapping 1 7 vlan 100
```

```
OLT(config-ont-lineprofile-10)#
```

Example 2: In ont-lineprofile 10, delete GEM Mapping id7

```
OLT(config-ont-lineprofile-10)# no gem mapping 1 7
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.6. Config FEC Function in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# fec-upstream <switch>
View	ont-lineprofile view
Description	This command is used to enable or disable forward error correction (FEC) on the ONT upstream.
<switch>	Enable: Enable FEC function. Disable: Disable FEC function.

【Example】

Example 1: In the ont-lineprofile 10, enable the uplink forward error correction (FEC) function of the ONT.

```
OLT(config-ont-lineprofile-10)# fec-upstream enable
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.7. Config Data Encrypt Function in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# gem add <gem-id> tcont <tcont-id> encrypt <switch>
View	ont-lineprofile view
Description	This command is used to enable or disable encryption of data when creating a gem port.
<gem-id>	Specifies the gem port id to enable data encryption. The value ranges from 1 to 30.
<tcont-id>	Specify the tcont id to enable data encryption, ranging from 1 to 7.
<switch>	Off: Turn off the data encryption of the ONT. On: Enable ONT data encryption

【Example】

Example 1: In ont-lineprofile 10, enable data encryption for gem port id 1 and tcont id 1

```
OLT(config-ont-lineprofile-10)# gem add 1 tcont 1 encrypt on
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.8. Config ont-lineprofile Binding Traffic Profile

Command	OLT(config-ont-lineprofile-10)# gem add <gem-id> tcont <tcont-id> gem-car <profile-id>
View	ont-lineprofile view
Description	This command is used to bind the traffic profile to the common mode and use the traffic-profile command in global mode.
<gem-id>	Specifies the gem port id to be bound to the traffic profile, ranging from 1 to 30.
<tcont-id>	Specifies the tcont id to be bound to the traffic profile, ranging from 1 to 7.
<profile-id >	Traffic template number. The traffic profile is created in global mode using the traffic-profile command. For details, refer to the creation of a traffic profile. The value ranges from 1 to 256.

【 Example 】

Example 1: In the ont-lineprofile 10, the traffic template is bound to 10.

```
OLT(config-ont-lineprofile-10)# gem add 1 tcont 1 gem-car 10
```

```
OLT(config-ont-lineprofile-10)#
```

19.2.9. Config QoS Mode in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# gem add {flow-car gem-car priority-queue}
View	ont-lineprofile view
Description	This command is used to configure the QoS mode in the GPON ONT line profile. This command is used when the end-to-end quality assurance needs to be provided to the user to control the traffic of the ONT side service mapped to the GEM Port by the gem mapping command. After the GEM mapping command is used, the mapping between the GEM port and the user service must be matched with the mapping mode supported by the ONT configured by this command. By default, the QoS mode of an ONT in a GPON ONT line profile is the priority queue scheduling mode.
flow-car	Business flow control mode. The ONT performs flow control processing based on the service flow of the GEM Port, and the control granularity is finer than the GEM flow control mode. After the

	flow control processing is completed, the scheduling is performed in the T-CONT queue. The scheduling mode depends on the scheduling of the ONT configuration. the way.
gem-car	GEM flow control mode. The ONT performs flow control based on the GEM Port. When there are multiple service flows in the GEM Port, how to schedule the service flows depends on the scheduling mode of the ONT configuration. When multiple GEM ports are included in the T-CONT, the scheduling mode of data packets between multiple GEM ports is also determined by the scheduling mode of the ONT configuration.
priority-queue	Priority queue scheduling mode. When this mode is selected, the user specifies the send queue of the GEM Port message in the T-CONT. When the T-CONT sends the uplink data, it sends it according to the strict queue priority.

【 Example 】

Example 1: In ont-lineprofile 10, configure the QOS mode to priority-queue.

```
OLT(config-ont-lineprofile-10)# qos-mode priority-queue

OLT(config-ont-lineprofile-10)#
```

19.2.10.Config OMCC Encrypt in ont-lineprofile

Command	OLT(config-ont-lineprofile-10)# omcc encrypt <switch>
View	ont-lineprofile view
Description	This command is used to configure the ONT OMCC (Ont Management and Control Channel) encryption switch status. When the OMCC encryption switch is turned on, the ONT OMCC channel will be encrypted; otherwise, it will not be encrypted. When the user needs to encrypt the ONT control management channel, use this command to set.
<switch>	On: Enable OMCC encryption of ONT Off: Turn off the OMCC encryption of the ONT Default: off

【 Example 】

Example 1: In the ont-lineprofile 10, turn on the OMCC encryption of the ONT.

```
OLT(config-ont-lineprofile-10)# omcc encrypt on

OLT(config-ont-lineprofile-10)#
```

19.2.11. Show ont-lineprofile Current Configuration

Command	OLT(config-ont-lineprofile-10)# show ont-lineprofile current
View	ont-lineprofile view
Description	This command displays the detailed configuration information of the line template currently configured.

【Example】

Example 1: View the ont-lineprofile details of the ID currently being created with id 10.

```

OLT(config-ont-lineprofile-10)# show ont-lineprofile current
-----
Profile-ID      : 10
Profile-name    : lineprofile_10
Binding times   : 0
-----
FEC upstream    : Disable
OMCC encrypt    : Off
Qos mode        : PQ
Mapping mode     : VLAN
-----
<T-CONT 0>          DBA-Profile ID : 0
-----

OLT(config-ont-lineprofile-10)#

```

19.2.12. Commit ont-lineprofile Configuration

Command	OLT(config-ont-lineprofile-10)# commit
View	ont-lineprofile view
Description	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-ont-lineprofile-10)# commit

OLT(config-ont-lineprofile-10)#

```

19.2.13. Show OLT ont-lineprofile Information

Command	OLT(config)# show ont-lineprofile gpon {all profile-id <profile-id > profile-name <profile-name>}
View	Config view
Description	This command is used to show OLT have been exist ont-lineprofile info.
all	Show OLT all of ont-lineprofile information.
<profile-id>	Ont-lineprofile id to be show.
<profile-name>	Ont-lineprofile name to be show.

【 Example 】

Example 1: Show ont-lineprofile 10 info.

```

OLT(config)# show ont-lineprofile gpon  profile-id  10
-----
Profile-ID      : 10
Profile-name    : lineprofile_10
Binding times   : 0
-----
FEC upstream   : Disable
OMCC encrypt    : Off
Qos mode        : PQ
Mapping mode    : VLAN
-----
<T-CONT  0>          DBA-Profile ID : 0
-----
OLT(config)#

```

19.3.ont-srvprofile Configuration

19.3.1.Create ont-srvprofile

Command	OLT(config)# ont-srvprofile gpon {profile-id <profile-id > profile-name <profile-name>}
View	Config view
Description	Use the ont-srvprofile gpon command to create and enter the GPON ONT service profile mode or enter the created GPON ONT service profile mode. The ONT service-related attributes are configured in the service template. For an ONT that processes the same service,

	you only need to configure it once to save the configuration workload. You need to bind the GPON ONT service profile to the ONT. If you do not specify this, the system automatically binds the ONT to the default service profile 0. After the command is successfully executed, you can enter the corresponding GPON ONT service profile configuration mode. You can set the related attributes of the GPON ONT service profile.
<profile-id>	The ID of the service template, which is in the range of 1-512. When not specified, the system automatically assigns the smallest idle template number. Service template 0 is the default template of the system, and the ONT automatically matches the service template.
<profile-name>	The name of the ONT service template, which supports 1-16 characters. The default template name is srvprofile_x, where "x" is replaced with the actual template number.

【 Example 】

Example 1: Create ont-srvprofile 10 and enter its editing view.

```
OLT(config)# ont-srvprofile gpon profile-id 10

OLT(config-ont-srvprofile-10)#
```

19.3.2. Config ONT Capability in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# ont-port {eth <Number > catv <Number> pots <Number >}
View	Ont-srvprofile view
Description	This command is used to set the port capability set in the ONT service profile, that is, the number of ports on each type of port on the ONT. The port capability set template of the ONT must be consistent with the actual capability set of the ONT.
eth <Number >	Configure the number of eth-ports on the ONT. The number of eth-ports on the ONT is 0-8 or adaptive. If the value is set to adaptive, the number of eth ports reported by the ONT is automatically matched.
catv <Number>	Configure the number of the capability of the catv interface on the ONT, which is 0 to 8 or adaptive. After the configuration is set to adaptive, the number of eth ports reported by the ONT is automatically matched.
pots <Number >	Configure the number of pots ports on the ONT. The number of

	eth-ports on the ONT is 0-8 or adaptive. If the value is set to adaptive, the number of eth ports reported by the ONT is automatically matched.
--	---

【 Example 】

Example 1: Set the number of ETH ports in the ONT ont-srvprofile 10 to be adaptive. The number of POTS ports is 1.

```
OLT(config-ont-srvprofile-10)# ont-port eth adaptive pots 1
OLT(config-gpon-srvprofile-10)#
```

19.3.3.Config ONT Native-vlan Concern or Unconcern

Command	OLT(config-ont-srvprofile-10)# native-vlan concern unconcern
View	Ont-srvprofile view
Description	This command is used to configure whether the ONT is interested in the native VLAN in the ONT service template. If the native VLAN is used, the Untaged packet will be added to the native VLAN. If the native VLAN is not used, the Native VLAN will not be added to the Untaged packet. By default, the ONT focuses on the native VLAN.
concern	Config ONT concern Native VLAN
unconcern	Config ONT unconcern Native VLAN

【 Example 】

Example 1: Config ONT concern Native VLAN int ont-srvprofile.

```
OLT(config-ont-srvprofile-10)# native-vlan concern
OLT(config-ont-srvprofile-10)#
```

19.3.4.Config ONT Port Trunk Mode VLAN in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port vlan {eth <eth-list> iphost} <vlan id> <priority> priority < priority policy >
View	Ont-srvprofile view
Description	This command is used to configure the ONT port vlan to be in trunk mode. A command only supports configuring one vlan. If you want to allow multiple vlans, you need to enter the command repeatedly.
eth <eth-list>	Specifies the port number of the ONT to be in vlan trunk mode. The value ranges from 1 to 24. You can specify the port range.

iphost	Optionally, the virtual port of the specified ONT is configured as vlan trunk mode, and the iphost is mainly a three-layer virtual interface of the HGU type.
<vlan id>	Set the vlan id to pass the ONT port trunk mode. The value is 1-4094.
<priority>	Optional, set the priority of the ONT port vlan.
priority < priority policy >	Optionally, set the priority policy of the service-side VLAN packet to be copied from the user-side VLAN. When the OLT is configured with the original priority of the user or the original priority of the user is in accordance with the OLT's VLAN, the priority of the service-side VLAN packets is directly copied from the user-side VLAN. The value is user-cos.

【Example】

Example 1: Set the trunk mode vlan 100 of eth1 in the ont-srvprofile 10.

```
OLT(config-ont-srvprofile-10)# port vlan eth 1 100
```

```
OLT(config-ont-srvprofile-10)#
```

19.3.5.Config ONT Port Translate Mode VLAN in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port vlan {eth <eth-list> iphost} translation <Svlan-id> user-vlan <Cvlan-id> <priority>
View	Ont-srvprofile view
Description	This command is used to configure the ONT port vlan to be a 1:1 vlan conversion mode or an N:1 vlan conversion mode. A command only supports configuring one vlan. If you want to convert multiple vlans, you need to enter the command repeatedly.
eth <eth-list>	Specifies the port number of the ONT to be in vlan conversion mode. The value ranges from 1 to 24. You can specify the port range.
iphost	Optionally, the virtual port of the specified ONT is configured as the vlan conversion mode, and the iphost is mainly the three-layer virtual interface of the HGU type.
<Svlan-id>	Set the network side Svlan of the ONT port vlan conversion mode, the value is 1-4094.
<Cvlan-id>	Set the user side Cvlan of the ONT port vlan conversion mode, which is 1-4094.
<priority>	Optional, set the priority of the ONT port vlan.

【 Example 】

Example 1: Set the 1:1 vlan conversion mode of eth1 in the ont-srvprofile 10 to Svlan 1001-1003 and Cvlan to 101-103.

```
OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1001 user-vlan 101

OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1002 user-vlan 102

OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1003 user-vlan 103

OLT(config-ont-srvprofile-10)#
```

Example 2: Set the N:1 vlan conversion mode Svlan of the eth1 in the ont-srvprofile 10 to 1000 and the Cvlan to 101-103.

```
OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1000 user-vlan 101

OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1000 user-vlan 102

OLT(config-ont-srvprofile-10)# port vlan eth 1 translation 1000 user-vlan 103

OLT(config-ont-srvprofile-10)#
```

19.3.6. Config ONT Port QinQ Mode VLAN in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port vlan {eth <eth-list> iphost} q-in-q <Svlan-id> user-vlan <Cvlan-id> <priority>
View	Ont-srvprofile view
Description	This command is used to configure the ONT port vlan to be in QinQ mode. A command can only be configured with one vlan. If you want to configure QinQ for multiple vlans, you need to enter the command repeatedly.
eth <eth-list>	Specifies the port number of the ONT to be in vlan trunk mode. The value ranges from 1 to 24. You can specify the port range.
iphost	Optionally, the virtual port of the specified ONT is configured as vlan trunk mode, and the iphost is mainly a three-layer virtual interface of the HGU type.
<Svlan-id>	Set the outer Svlan of the vlan QinQ mode on the ONT port, which is 1-4094.
<Cvlan-id>	Set the inner Cvlan of the vlanQinQ mode of the ONT port, which is 1-4094.

<priority>	Optional, set the priority of the ONT port vlan.
-------------------------	--

【 Example 】

Example 1: The QinQ mode of the eth1 in the ont-srvprofile 10 is set to 2000 and the inner vlan is 200.

```
OLT(config-ont-srvprofile-10)# port vlan eth 1 q-in-q 2000 user-vlan 200
OLT(config-ont-srvprofile-10)#
```

19.3.7. Config ONT Port Transparent Mode VLAN in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port vlan {eth <eth-list> iphost} transparent
View	Ont-srvprofile view
Description	This command is used to configure the ONT port vlan to be transparent.
eth <eth-list>	Specifies which ports of the ONT need to be configured in transparent transmission mode. The value ranges from 1 to 24. You can specify the port range.
iphost	Optionally, the virtual port of the specified ONT is configured as vlan transparent transmission mode, and the iphost is mainly a three-layer virtual interface of the HGU type.

【 Example 】

Example 1: Set eth1 in the ont-srvprofile 10 to transparent transmission mode.

```
OLT(config-ont-srvprofile-10)# port vlan eth 1 transparent
OLT(config-ont-srvprofile-10)#
```

19.3.8. Delete ONT Port VLAN in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# no port vlan {eth <eth-list> iphost} <Cvlan-id>
View	Ont-srvprofile view
Description	This command is used to delete the ONT port vlan configuration.
eth <eth-list>	Specifies the port VLAN configuration for deleting the ONT. The value

	ranges from 1 to 24. You can specify the port range.
iphost	Optionally, you can delete the virtual port vlan configuration of the ONT. The iphost is mainly a three-layer virtual interface of the HGU type.
<Cvlan-id>	Specifies the vlan of the ONT port to be deleted. The value ranges from 1 to 4094.

【 Example 】

Example 1: Delete the configuration in which the eth1 vlan in the ont-srvprofile 10 is 100.

```
OLT(config-ont-srvprofile-10)# no port vlan eth 1 100

OLT(config-ont-srvprofile-10)#
```

19.3.9. Config ONT MAC Aging Time in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# mac-aging <aging-time>
View	Ont-srvprofile view
Description	This command is used to configure the aging time of the mac address of the ONT.
<aging-time>	Set the aging time of the ONT mac address, in the range of 10 to 1000000 seconds. No-aging sets the ONT mac address to not age.

【 Example 】

Example 1: Config aging time of the MAC address of the ONT in the ont-srvprofile 10 is not aged.

```
OLT(config-ont-srvprofile-10)# mac-aging no-aging

OLT(config-ont-srvprofile-10)#
```

19.3.10. Config ONT MAC Address Learning Function in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# mac-learning <switch>
View	Ont-srvprofile view
Description	This command is used to enable or disable the mac address learning function of the ONT.

<switch>	On: Enables the MAC address learning function of the ONT. Off: Disables the MAC address learning function of the ONT.
-----------------------	--

【 Example 】

Example 1: Enable the mac address learning function of the ONT in the ont-srvprofile 10.

```
OLT(config-ont-srvprofile-10)# mac-learning enable

OLT(config-ont-srvprofile-10)#
```

19.3.11.Config ONT IGMP Mode in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# multicast mode <mode-value>
View	Ont-srvprofile view
Description	This command is used to configure the multicast mode of the ONT.
<mode-value>	Value igmp-proxy, igmp-snooping-proxy, olt-control (controllable multicast), transparent, default is multicast transparent (transparent).

【 Example 】

Example 1: Configure the ONT multicast mode in the ont-srvprofile 10 as igmp-proxy.

```
OLT(config-ont-srvprofile-10)# multicast mode igmp-proxy

OLT(config-ont-srvprofile-10)#
```

19.3.12.Config ONT IGMP Forwarding Mode in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# multicast-forward {untag tag {translation <vlan-id> transparent }}sss
View	Ont-srvprofile view
Description	This command is used to set the multicast packet forwarding mode of the ONT in the GPON ONT service profile. In different multicast forwarding modes, the downlink multicast packets sent by the ONT to the Ethernet port are different. <ul style="list-style-type: none"> • If the ONT is directly connected to the set-top box or PC, select the untag mode; • Select the tag mode if the ONT is directly connected to the home gateway; By default, the multicast forwarding mode of the ONT is transparent and does not take effect.
untag	The multicast forwarding mode is set to no tag. The downlink

	multicast packets sent by the ONT to the Ethernet port are not tagged and have no VLAN ID.
tag	Set the specified multicast forwarding mode to tagged, and the downlink multicast packets sent by the ONT to the egress port are tagged.
translation <vlan-id>	Set the multicast packet forwarding mode to the conversion mode and specify the VLAN tag after the switch. When you plan to use the home gateway in the user's home, you need to plan the multicast VLAN on the user side. If the multicast VLAN on the network side is different from the multicast VLAN on the user side, you can use this parameter to perform VLAN translation. Value range: 1-4094.
transparent	Set the multicast forwarding mode to tag transparent transmission mode. When you plan to use the home gateway in the user's home, you need to plan the multicast VLAN on the user side. If the multicast VLAN on the network side is the same as the multicast VLAN on the user side, select this parameter.

【 Example 】

Example 1: Configure the ONT multicast packet forwarding mode in the ont-srvprofile 10 as untag.

```
OLT(config-ont-srvprofile-10)# multicast-forward untag

OLT(config-ont-srvprofile-10)#
```

19.3.13.Config ONT Port IGMP Forwarding Mode in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port igmp-forward eth <port-list> {default <vlan-id> <priority>} translation <vlan-id> <priority>} transparent}
View	Ont-srvprofile view
Description	<p>This command is used to set the IGMP packet forwarding mode of the ONT Ethernet port in the GPON ONT service profile. In different IGMP packet forwarding modes, the ONT sends IGMP messages to the network.</p> <ul style="list-style-type: none"> When you need to uniformly plan VLANs for user-side packets, <ul style="list-style-type: none"> If the ONT is directly connected to the home gateway, select the translation mode; If the ONT is directly connected to the set-top box or PC, select the default mode. <p>In the default mode, the transmission mode is not processed.</p>

<port-list>	Specifies the IGMP packet forwarding mode on the port of the specified ONT. The value ranges from 1 to 24. You can specify the port range.
default	Configure the forwarding mode of IGMP messages to the default tag mode. The ONT adds a new VLAN tag to the user-side packet and forwards the packet to the OLT device.
translation	Configure the forwarding mode of ONT IGMP messages in VLAN switching mode. Only 1:1 VLAN switching is supported, and N:1 VLAN switching is not supported. In an actual network application, the IGMP packet VLANs on the user equipment may be different, but the OLT needs to be unified. Therefore, you need to switch the IGMP packets from the user equipment to a unified VLAN and uplink to the OLT device. The IGMP packet VLAN of the device has been uniformly planned. You do not need to use the translation parameter to switch.
<vlan-id>	The VLAN specified in the switch or default tag mode. Value range 1-4094.
<priority>	Or the default tag mode can be used to specify the priority of IGMP messages sent from the OLT to the OLT. When not specified, the user-side packet is uplinked to the OLT device with the original priority. The higher the value, the higher the priority. Value range 0-7.
transparent	Configure the forwarding mode of IGMP messages on the ONT to be transparent. The packets sent by the user/network to the ONT (such as broadcast packets and multicast packets) are directly forwarded to the other side. The ONT does not process the packets.

【 Example 】

Example 1: Set the eth1 port igmp packet forwarding mode in the ont-srvprofile 10 to tag, vlan100.

```
OLT(config-ont-srvprofile-10)# port igmp-forward eth 1 default 100
```

```
OLT(config-ont-srvprofile-10)#
```

19.3.14.Delete ONT Port IGMP Forwarding Mode in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# no port igmp-forward eth <port-list>
View	Ont-srvprofile view
Description	This command is used to delete the IGMP packet forwarding mode of the ONT Ethernet port in the GPON ONT service profile.

<port-list>	Specifies the port number of the ONT to delete the IGMP packet forwarding mode. The value ranges from 1 to 24. You can specify the port range.
--------------------------	--

【 Example 】

Example 1: Delete the eth1 interface igmp packet forwarding mode in the ont-srvprofile 10.

```
OLT(config-ont-srvprofile-10)# no port igmp-forward eth 1

OLT(config-ont-srvprofile-10)#
```

19.3.15. Config ONT Port MAC Address Number Limit in ont-srvprofile

Command	OLT(config-ont-srvprofile-10)# port eth <port-list> max-mac-count {unlimited <Maximum-number >}
View	Ont-srvprofile view
Description	This command is used to limit the number of MAC address on an ONT port.
unlimited	It means that there is no limit. The ONT port does not impose any restrictions on the number of MAC addresses that pass.
<Max MAC count>	Indicates the maximum number of mac addresses that the ONT port passes. The value ranges from 1 to 255.

【 Example 】

Example 1 : Set the maximum number of mac addresses of the eth1 port in the ont-srvprofile 10 to 10

```
OLT(config-ont-srvprofile-10)# port eth 1 max-mac-count 10

OLT(config-ont-srvprofile-10)#
```

19.3.16. Show ont-srvprofile Current Configuration

Command	OLT(config-ont-srvprofile-10)# show ont-srvprofile current
View	Ont-srvprofile view
Description	This command is used to show current configuration of ont-srvprofile

【 Example 】

Example 1: Show current configuration of ont-srvprofile


```

OLT(config-ont-srvprofile-10)# show ont-srvprofile current
-----
Profile-ID      : 10
Profile-name    : srvprofile_10
Binding times   : 0
-----
Port-type       Port-number  Max-adaptive-number
-----
ETH             4            -
POTS           0            -
CATV           0            -
-----
MAC learning switch : enable
MAC aging time(s)   : 300
Multicast mode      : transparent
Multicast forward mode : transparent
Multicast forward VLAN : -
Native VLAN option  : concern
-----
Port   Port Service-type Index S-VLAN S-PRI C-VLAN C-PRI ENCAP S-PRI
type   ID
-----
ETH    1    Transparent -    -    -    -    -    -    -
ETH    2    Transparent -    -    -    -    -    -    -
ETH    3    Transparent -    -    -    -    -    -    -
ETH    4    Transparent -    -    -    -    -    -    -
IHOST 1    Transparent -    -    -    -    -    -    -
-----
Port-type  Port-ID      IGMP-mode          IGMP-VLAN  IGMP-PRI
Max-MAC-Count
-----
ETH        1          default-tag      100        0          unlimited
ETH        2          transparent      -          -          unlimited
ETH        3          transparent      -          -          unlimited
ETH        4          transparent      -          -          unlimited
-----

```

19.3.17.Show OLT Exist ont-srvprofile Information

Command	OLT(config)# show ont-srvprofile gpon {all profile-id <profile-id > profile-name <profile-name>}
View	config view

Description	This command is used to query the information about the ONT service template that has been created in the system.
all	View all service template information on the OLT.
profile-id <profile-id	View the service template information of the specified id.
profile-name <profile-name>	View the business template information of the specified name.

【 Example 】

Example 1: View the ont-srvprofile information with ID 10.

```
OLT(config)# show ont-srvprofile gpon profile-id 10
-----
Profile-ID      : 10
Profile-name    : srvprofile_10
Binding times   : 0
-----
Port-type      Port-number  Max-adaptive-number
-----
ETH            4            -
POTS           0            -
CATV           0            -
-----
MAC learning switch      : enable
MAC aging time(s)       : 300
Multicast mode           : transparent
Multicast forward mode   : transparent
Multicast forward VLAN   : -
Native VLAN option       : concern
-----
Port  Port Service-type Index S-VLAN S-PRI C-VLAN C-PRI ENCAP S-PRI
type  ID
-----
ETH   1   Transparent -   -   -   -   -   -   -
ETH   2   Transparent -   -   -   -   -   -   -
ETH   3   Transparent -   -   -   -   -   -   -
ETH   4   Transparent -   -   -   -   -   -   -
IPHOST 1   Transparent -   -   -   -   -   -   -
-----
Port-type      Port-ID      IGMP-mode           IGMP-VLAN      IGMP-PRI
Max-MAC-Count
-----
ETH            1            transparent        -               -               unlimited
```

ETH	2	transparent	-	-	unlimited
ETH	3	transparent	-	-	unlimited
ETH	4	transparent	-	-	unlimited

OLT(config)#					

19.3.18.Commit ont-srvprofile Configuration

Command	OLT(config-ont-srvprofile-10)# commit
View	Ont-srvprofile view
Description	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)#

19.4.OLT traffic-profile Configuration

19.4.1.Create traffic-profile

Command	OLT(config)# traffic-profile profile-id <Profile ID> profile-name <profile name> cir <committed-rate-value> pir <peek-rate-rate> cbs <committed-burst-size> pbs <peek-burst-size>
View	Config view
Description	This command is used to create a traffic profile and configure traffic profile parameters for use with rate limiting.
<Profile ID>	traffic-profile id,range for 1-256
<profile name>	traffic-profile name,range for 1-16
<committed-rate-value>	Committed Information Rate,range for 64-10240000,unit is kbps
< peek-rate-rate>	Peek Information Rate,range for 64-10240000,unit is kbps
<committed-burst-size>	Committed Burst Size,range for 2000-10240000,unit is byte

e>	
<peek-burst-size>	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.

<pre>OLT(config)#traffic-profile profile-id 10 profile-name test1 cir 128 pir 256 cbs 2000 pbs 3000 OLT(config)#</pre>

19.4.2.Modify traffic-profile

Command	OLT(config)# traffic-profile modify {profile-id <Profile-ID> profile-name <profile-name>} { cir <committed-rate-value> pir <peek-rate-rate> cbs <committed-burst-size> pbs <peek-burst-size>}
View	Config view
Description	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
<committed-rate-value>	Committed Information Rate,range for 64-10240000,unit is kbps
<peek-rate-rate>	Peek Information Rate,range for 64-10240000,unit is kbps
<committed-burst-size>	Committed Burst Size,range for 2000-10240000,unit is byte
<peek-burst-size>	Peek Burst Size,range for 2000-10240000,uni is byte

【Example】

Example 1: Modify cir as 150 in traffic-profile 10.

<pre>OLT(config)#traffic-profile modify profile-id 10 cir 150 OLT(config)#</pre>

19.4.3.Show OLT traffic-profile Information

Command	OLT(config)# show traffic-profile all
----------------	--

View	Config view
Description	This command is used to show traffic-profile info

【 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.ONT Management

20.1.ONT Authentication Management

20.1.1.Enable or Disable ONT Autofind Function

Command	OLT(config-interface-gpon-0/0)# ont autofind {<port-id> all} <switch>
View	EPON interface view
Description	This command is used to enable or disable ont autofind function in pon port
<port-id>	Pon port id,range for 1-16
all	Enable OLT all of PON port ONT autofind function
<switch>	Enable: Enable ONT autofind function. Disable: Disable the ONT autofind function.

【 Example 】

Example 1: Enable ont autofind function in pon 1.

```

OLT(config-interface-gpon-0/0)# ont autofind 1 enable

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

```

20.1.2.ONT Autofind Aging Time Config

Command	OLT(config)# ont autofind {no-aging timeout < Aging-time>}
View	Config view
Description	This command is used to set the aging time of the ONT auto discovery.
no-aging	Set the aging time of the ONT auto discovery to no aging.
< Aging-time>	Set the aging time of the ONT auto-discovery. The value ranges from 100 to 300. The unit is seconds. The default is 100 seconds. You can use show ont autofind time to check the automatic aging time of the configured ONT.

【Example】

Example 1: Configure the aging time of automatic discovery of the ONT as 200 seconds.

```
OLT(config)# ont autofind timeout 200
```

```
OLT(config)#
```

20.1.3.Use SN Method Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont add <port-id> <ont-id> sn-auth <SN-VALUE> { ont-lineprofile-id <profile-id> ont-lineprofile-name <profile-name> } {ont-srvprofile-id <profile-id> ont-srvprofile-name <profile-name> } [{always once-again <Aging time value> once-no-aging}
View	gpon interface view
Description	This command is used to authenticate the ONT and bind the ONT line template and service template according to the SN of the ONT. The OLT determines whether the SN reported by the ONT is consistent with the configuration. If the SN is consistent, the authentication succeeds and the ONT goes online.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
<ONT-id>	Specify the ONT number. The value is 1-128.
< SN-VALUE>	The SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: <Length 12, 13, 16>

	(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXX)
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.
once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.
once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed all the time.

【 Example 】

Example 1: In the pon1 port, an ont number is 9, and the sn is the ONT of the xpon12345678 and is bound to the ONT line template 15 and the ONT service template.

```
OLT(config-interface-gpon-0/0)# ont add 1 9 sn-auth xpon12345678 ont-lineprofile-id
15 ont-srvprofile-id 15

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

20.1.4. Use Password Method Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont add <port-id> <ont-id> password-auth <PASSWOED-VALUE> { ont-lineprofile-id <profile-id> ont-lineprofile-name <profile-name> } {ont-srvprofile-id <profile-id> ont-srvprofile-name <profile-name> } {always once-again <Aging time value> once-no-aging}
View	gpon interface view
Description	This command is used to authenticate the ONT and bind the ONT line template and service template according to the SN password of the

	ONT. The OLT determines whether the SN of the SN reported by the ONT is consistent with the configuration. If the NTP is consistent, the authentication succeeds and the ONT goes online.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
<ONT-id>	Specify the ONT number. The value is 1-128.
<PASSWORD-VALUE>	The password of the SN of the ONT to be authenticated. The format is 10 digits of ASCII characters. The character length is 1-10.
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.
once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.
once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed all the time.

【Example】

Example 1: In the pon1 port, an ont number is 9, and the Password of the sn is 12345678 ONT and binds the ONT line template 15 and the ONT service template.

```
OLT(config-interface-gpon-0/0)# ont add 1 9 password-auth 12345678 ont-lineprofile-id 15 ont-srvprofile-id 15
```

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

20.1.5. Use SN+Password Method Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont add <port-id> <ont-id> sn-auth
----------------	---

	<pre> <SN-VALUE> password-auth <PASSWOED-VALUE> { ont-lineprofile-id <profile-id> ont-lineprofile-name <profile-name> } {ont-srvprofile-id <profile-id> ont-srvprofile-name <profile-name> } {always once-again <Aging time value> once-no-aging} </pre>
View	gpon interface view
Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile according to the SN+Password of the ONT. The OLT will determine whether the sn and the passwords reported by the ONT are consistent with the configuration. If they are consistent, the authentication is passed and the ONT is online.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
<ONT-id>	Specify the ONT number. The value is 1-128.
< SN-VALUE>	The SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: <Length 12, 13, 16> (XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXX)
<PASSWOED-VALUE>	The password of the SN of the ONT to be authenticated. The format is 10 digits of ASCII characters. The character length is 1-10.
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.
once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.
once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed

	all the time.
--	---------------

【 Example 】

Example 1: In the pon1 port authentication, an ont number is 9, the authentication sn is xpon12345678, the authenticated Password is 12345678 ONT and is bound to the ONT line template 15 and the ONT service template 15

```
OLT(config-interface-gpon-0/0)# ont add 1 9 sn-auth xpon12345678 password-auth
12345678 ont-lineprofile-id 15 ont-srvprofile-id 15

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

20.1.6. Use Loid Method Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont add <port-id> <ONT-id> loid-auth <LOID-VALUE> { 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]
View	gpon interface view
Description	This command is used to authenticate the ONT and bind the ONT line profile and service template according to the loid of the ONT. The OLT determines whether the loid reported by the ONT is consistent with the configuration. If the OLT is consistent, the authentication succeeds and the ONT goes online.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
<ONT-id>	Specify the ONT number. The value is 1-128.
<LOID-VALUE>	The loid of the ONT to be authenticated supports 1-24 characters.
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.

once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.
once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed all the time.

【 Example 】

Example 1: Authenticate an ONT with the ONT number 10 and a Loid 12345678 in the pon1 port and bind the ONT line template 5 and the ONT service template 5

```
OLT(config-interface-gpon-0/0)# ont add 1 10 loid-auth 12345678 ont-lineprofile-id 5
ont-srvprofile-id 5 always
```

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

20.1.7. Use Loid+Password Method Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont add <port-id> <ONT-id> loid-auth <LOID-VALUE> password <PASSWORD-VALUE> { 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}
View	gpon interface view
Description	This command is used to authenticate the ONT and bind the ONT line template and service template according to the Loid+ password of the ONT. The OLT will determine whether the loid and password reported by the ONT are consistent with the configuration. If the OLT is consistent, the authentication succeeds and the ONT goes online.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
<ONT-id>	Specify the ONT number. The value is 1-128.
<LOID-VALUE>	The loid of the ONT to be authenticated supports 1-24 characters.

<PASSWORD-VALUE>	Password of the ONT to be authenticated, supporting 1-12 characters.
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.
once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.
once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed all the time.

【 Example 】

Example 1: On the pon1 port, authenticate an ONT with the ONT number 10, the Loid test and the password test, and bind the ONT line template 5 and the ONT service template.

```
OLT(config-interface-gpon-0/0)# ont add 1 10 loid-auth test password-auth test
ont-lineprofile-id 5 ont-srvprofile-id 5 always
```

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

20.1.8. Config ONT Authenticated Mode

Command	OLT(config-interface-gpon-0/0)# ont authmode <port-id> {auto manual} [{to <auth-mode>}]
View	gpon interface view
Description	This command is used to configure the ONT authentication mode on the specified PON port.
<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16

auto	Configure the automatic authentication mode for the specified PON port.
manual	Configure the manual authentication mode for the specified PON port.
to <auth-mode>	After the ONT authentication is configured, which authentication mode is used for recording, there are the following authentication modes: 1- loid-auth 2- loid-password-auth 3- password-auth 4- sn-auth 5- sn-password-auth

【 Example 】

Example 1: Configure the ONT authentication mode of the PON1 port as automatic authentication.

```
OLT(config-interface-gpon-0/0)# ont authmode 1 auto

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

20.1.9.Batch Authentication ONT in Autofind Status

Command	OLT(config-interface-gpon-0/0)# ont confirm <port-id> all {loid-auth loid-password-auth password-auth sn-auth sn-password-auth} {ont-srvprofile-id <profile-id> ont-srvprofile-name <profile-name>} {always once-again <Aging time value> once-no-aging} OLT(config-interface-gpon-0/0)# ont confirm <port-id> {loid-auth <LOID-VALUE > password-auth <PASSWORD-VALUE> sn-auth <SN-VALUE>} { ont-lineprofile-id <profile-id> ont-lineprofile-name <profile-name> } {ont-srvprofile-id <profile-id> ont-srvprofile-name <profile-name>} {always once-again <Aging time value> once-no-aging}
View	gpon interface view
Description	This command is used to authenticate the ONT in the discovery state of the specified PON port. If the ONT auto-discovery switch is enabled on the OLT, after the ONT is added, the OLT obtains the registration information of the ONT, and the ONT is in the auto-discovery state. After the ONT is confirmed by this command, the ONT enters the normal working state, and the related services can be configured for the ONT. Can be used to batch register ONTs.

<port-id>	Specifies the PON port number where the newly added ONT is located. The value is 1-16
all	Batch-certify all discovered ONTs under the PON port.
loid-auth	Use Loid authentication Method.
<LOID-VALUE >	The loid value to be entered in the loid authentication mode, the length is 1-24 characters.
loid-password-auth	Use Loid+Password authentication method.
password-auth	Use the password authentication method of sn.
<PASSWORD-VALUE>	Password value to be entered in password authentication mode, length 1-10 characters.
sn-auth	Adopt sn authentication method.
< SN-VALUE>	The SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: <Length 12, 13, 16> (XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX).
sn-password-auth	Adopt sn+password authentication method.
<profile-id>	ID number of the ONT template, ranging from 0 to 512.
<profile-name>	The name of the ONT template, which supports 1-16 characters.
always	(Optional), Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.
once-again <Aging time value>	(Optional), once-again is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode requires the ONT to be authenticated within the specified time. Exceeding this time, authentication is not allowed, and once the ONT authentication is successful. After that, it is not allowed to modify the SN. The time can be set by aging-time, the time range is 1-10086, in minutes.

once-no-aging	(Optional) When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can be performed all the time.
----------------------	--

【 Example 】

Example 1: Authenticate all the ONTs in the discovery state of the pon1 interface and bind the line profile and service template 10 according to the sn mode.

```
OLT(config-interface-gpon-0/0)#ont confirm 1 all sn-auth ont-lineprofile-id 10
ont-srvprofile-id 10
Number of ONTs that can be added: 0, success: 0

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

Example 1: An ONT that is in the discovery state and has a loid of test and binds the line profile and service template 10

```
OLT(config-interface-gpon-0/0)# ont confirm 1 loid-auth test ont-lineprofile-id 10
ont-srvprofile-id 10
Add port 1 ONT 1 successfully.

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

20.1.10.Cancel Autofind ONT

Command	OLT(config-interface-gpon-0/0)# ont cancel <port-id> {all sn <SN-VALUE>}
View	gpon interface view
Description	This command is used to cancel an ONT that is in the auto-discovery state. If the ONT auto-discovery switch is enabled on the OLT, after the ONT is added, the OLT obtains the registration information of the ONT, and the ONT is in the auto-discovery state. Use this command to clear the registration information saved by the ONT on the OLT and release the registration information storage space resource.
<port-id>	Specifies which PON port of the OLT needs to cancel the ONT auto discovery state. The value is 1-16.
< SN-VALUE>	The length of the string of the ONT to be canceled in the auto-discovery state must be 12, 13 or 16 characters in the format of XXXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXX.
all	Cancel all automatically discovered ONTs under a GPON port. Use this parameter when deleting ONTs in batches.

【 Example 】

Example 1: Cancel the ONT under the PON1 port where the sn is test and is in the auto discovery state.

```
OLT(config-interface-gpon-0/0)# ont cancel 1 test

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

20.1.11.Delete Authenticated ONT

Command	OLT(config-interface-gpon-0/0)# ont delete <port-id> {<ONT-id> all }
View	gpon interface view
Description	This command is used to delete an authenticated ONT. After this command is successfully executed, the authenticated ONT will go offline.
<port-id>	Delete the authenticated ONT on the specified PON port.
<ONT-id>	Delete the authenticated ONT of the specified ID under the specified PON port.
all	Delete all authenticated ONTs in the specified PON port in batches.

【 Example 】

Example 1: Delete the authenticated ONT1 under the PON2 port.

```
OLT(config-interface-gpon-0/0)# ont delete 2 1

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

20.1.12.Blacklist Authenticated ONT(Config and Display)

Command	OLT(config-interface-gpon-0/0)# ont blacklist <switch> OLT(config-interface-gpon-0/0)# ont blacklist add sn < SN-VALUE> mask < length> OLT(config-interface-gpon-0/0)# ont blacklist add delete <index> OLT(config-interface-gpon-0/0)# show ont blacklist
View	gpon interface view
Description	This command is used to add the specified ONT to the blacklist and then make the blacklist's ONT authentication unsuccessful.
<switch>	Enable: Enable blacklist authentication ONT Disable: Disable blacklist authentication ONT

sn < SN-VALUE>	Add the specified ONT sn to the blacklist, 12 characters long, format XXXXXXXXXXXXX
mask < length>	Configure the length of the sn mask that the specified ONT sn is added to the blacklist. The value ranges from 4 to 12.
<index>	Specify the id to remove the ONT from the blacklist. You can use “show ont blacklist” to check the id of the ONT in the blacklist.

【Example】

Example 1: Add the ONT of the SN to test12345678 to the blacklist. Set the mask length of sn to 4 and enable blacklist authentication.

```
OLT(config-interface-gpon-0/0)# ont blacklist add sn test12345678 mask 4
OLT(config-interface-gpon-0/0)# ont blacklist enable
OLT(config-interface-gpon-0/0)#
```

20.1.13.Re-register ONT

Command	OLT(config-interface-gpon-0/0)# ont re-register <port-id> {<ONT-id> all}
View	gpon interface view
Description	This command is used to re-register the ONT. After the command is successfully executed, the ONT goes offline and re-applies the registration information.
<port-id>	Re-register the ONT under the specified PON port
<ONT-id>	Re-register the ONT of the specified ID under the specified PON port.
all	Batch re-register all ONTs under the specified PON port.

【Example】

Example 1: Re-register the ONT1 under the PON2 port

```
OLT(config-interface-gpon-0/0)# ont re-register 2 1
OLT(config-interface-gpon-0/0)# 2000-01-03 08:50:39 PON 0/0/2 ONU 1 Onu offline
OLT(config-interface-gpon-0/0)#
OLT(config-interface-gpon-0/0)# 2000-01-03 08:50:48 PON 0/0/2 ONU 1 Onu online
```

20.1.14.Modify ONT Authenticated Mode

Command	OLT(config-interface-gpon-0/0)# ont modify <port-id> <ONT-id> auth-type {loid-auth {<LOID-VALUE> password-auth
----------------	---

	<code><PASSOERD-VALUE> password-auth <PASSWORD-VALUE> {sn-auth <SN-VALUE> password-auth <PASSWORD-VALUE>}}</code>
View	gpon interface view
Description	This command is used to modify the authentication mode of the registered ONT.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the authentication mode to be modified, in the range of 1-128.
sn-auth <SN-VALUE>	Modify the registered ONT authentication mode to sn and enter the value of the sn to be authenticated. The length supports 12, 13, and 13 in the format of XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXXXXX.
sn-auth <SN-VALUE> password-auth <PASSWORD-VALUE>	Change the authentication mode of the registered ONT to the password of sn+sn and enter the value of sn and the password value under sn. The length of sn supports 12,13,13. The format is XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXXXXX, and the password value ranges from 1 to 10 characters
password-auth <PASSWORD-VALUE>	Change the authentication mode of the registered ONT to password under sn and enter the password value under sn. The password value ranges from 1 to 10 characters.
loid-auth <LOID-VALUE>	Change the authentication mode of the registered ONT to loid and enter the value of the loid to be authenticated. The value ranges from 1 to 24 characters.
loid-auth {<LOID-VALUE> password-auth <PASSOERD-VALUE>	Change the authentication mode of the registered ONT to the password of the loid+loid and enter the value of the loid and the password of the loid. The value of the loid ranges from 1 to 24 characters, and the value of the password ranges from 1 to 12 characters.

【 Example 】

Example 1: Modify the authentication mode of the first ONT under the PON1 port as sn authentication and sn is xpon12345678.

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type sn-auth xpon12345678
```

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

Example 2: Modify the authentication mode of the first ONT under the PON1 port as loid authentication and loid as test.

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type loid-auth test

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

案例 3：Modify the authentication mode of the first ONT under the PON1 port as sn+password authentication and the loid and password are xpon12345678 and test1 respectively.

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type sn-auth xpon12345678
password-auth test

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

20.1.15.Change ONT Bind Lineprofile and Srvprofile

Command	OLT(config-interface-gpon-0/0)# ont modify <port-id> <ONT-id> <profile-id> <profile-name> <profile-name>
View	gpon interface view
Description	This command is used to modify the line profile and service profile bound to the ONT on the PON interface.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16
<ONT-id>	Specifies the ONT id of the line profile and service profile to be repaired. The value is 1-128.
<profile-id>	ID of the line template and service template, ranging from 0 to 512.
<profile-name>	Name of the line template and service template, ranging from 1 to 16 characters.

【Example】

Example 1: Change the line template of ONT1 under PON1 port to 5.

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 ont-lineprofile-id 5

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

Example 2: Change the line profile and service profile of ONT1 on the PON1 port to 5 and 5 respectively.

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type loid-auth test

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

20.1.16.Show Autofind ONT

Command	OLT(config-interface-gpon-0/0)# show ont autofind <port-id> {all brief} {sn < SN-VALUE>} OLT(config-interface-gpon-0/0)# show ont autofind all brief OLT(config-interface-gpon-0/0)# show ont autofind time
View	Config view or gpon interface view
Description	This command is used to view the unregistered ONTs automatically found on the OLT.
<port-id>	Pon port id,range for 1-16
all brief	Check all the automatically discovered ONTs under the specified PON port. If you add the brief, you can also see the information about the automatic display of the Loid, model, and automatic aging time.
sn < SN-VALUE>	View auto-discovered ONTs based on the specified SN.
show ont autofind all brief	View all auto-discovered ONTs on the OLT. If you add a brief, you can also see the information about the loid, model, and automatic aging time.
time	Check the default auto aging time of ONTs that are automatically discovered but not registered on the OLT.

【Example】

Example 1: View all ONTs automatically discovered by the PON2 port.

```

OLT(config-interface-gpon-0/0)# show ont autofind 2 all
-----
Number           : 1
Frame/Slot       : 0/0
Port             : 2
Logic ID         : 1
Ont SN           : DD16B3551CD3
Password         : 12345678
Loid             : e067b3551cd3
Loid Password    : e067b3551cd3
OMCC Ver        : 0xA0
Vendor ID        : xPON
Ont Version      : HZ660.1A
Ont Software Version : V2.1.2
Equipment ID     : ONT1
Last autofind time : Sat Jan 1 10:15:36 2000
-----

```

```
Total: 1

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

Example 2: View all auto-discovered ONTs on the OLT.

```
OLT(config-interface-gpon-0/0)# show ont autofind all brief
-----
ID   F/S/P  SN              LOID              Aging Equipment-ID
-----
1    0/0/2  DD16B3551CD3  e067b3551cd3     81    ONT1
-----

Total: 1

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

20.1.17. Show ONT Registered Status and Information

Command	<p>OLT(config-interface-gpon-0/0)# show ont info <port-id> {< ONT-id > all}</p> <p>OLT(config-interface-gpon-0/0)# show ont info { by-desc < DESCRIPTION> by-loid < LOID-VALUE> by-password < PASSWORD-VALUE> by-sn < SN-VALUE>}</p>
View	Config view or gpon interface view
Description	<p>This command is used to view the status of the ONT, including the registration details of the ONT and the template information of the ONT binding, and the port configuration of the ONT.</p> <p>This command is used to query the related information of the ONT (including the current status of the ONT, the related configuration of the ONT, and related information of the ONT T-CONT).</p> <p>Port: The ONT is numbered on the PON port of the OLT.</p> <p>ONT ID: The number of the ONT set by the user.</p> <p>SN: The sn of the ONT.</p> <p>Control flag:</p> <p>Active: ONT is active. The ONT must be activated on the OLT to allow the ONT to go online when the ONT is in the active state.</p> <p>Deactive: ONT is in the deactivated state. When the ONT is deactivated, the ONT can be activated using the ont activate command.</p> <p>Run state: The running flag of the ONT, which identifies the running status of the current ONT. Including "online" and "offline", the ONT is "online" when it is online.</p>

	<p>Config state: Configuration status. After the ONT is online, this status indicates whether the ONT is configured for delivery, recovery, and configuration completion. A total of three states: "initial", "failed", and "Success".</p> <p>Initial: ONT is in the configuration delivery or configuration recovery.</p> <p>Failed: The delivery or recovery of the ONT fails.</p> <p>Success: The ONT configuration is delivered or restored successfully.</p>
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	Specifies the detailed information of the ONT id to be viewed. When the id of the ONT is specified, the detailed registration status of the ONT, the template information of the ONT binding, and the port configuration information of the ONT are displayed. The value is 1-128.
all	View all registered ONU registration status of a specified PON port, mainly for some brief registration information, including online and offline.
by-desc < DESCRIPTION>	View the registration status of the ONT by specifying the description information of the ONT, and support 1-64 characters.
by-loid < LOID-VALUE>	Check the registration status of the ONT by specifying the LOID of the ONT, supporting 1-24 characters.
by-password < PASSWORD-VALUE>	Check the registration status of the ONT by specifying the password under the SN of the ONT. Support 1-10 characters.
by-sn < SN-VALUE>	Check the registration status of the ONT by specifying the SN of the ONT. The length supports 12, 13, and 16. The format is: XXXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXXXXX).

【 Example 】

Example 1: Check the registration status of all ONTs on the PON2 port.

```
OLT(config-interface-gpon-0/0)# show ont info 2 all
-----
F/S P  ONT SN          Control  Run    Config  Match
      ID           flag    state  state   state
-----
0/0 2  1  TPLGCAF02E40  Active  Online  failed  mismatch
0/0 2  2  DD16B3551CD3  Active  Offline initial  initial
0/0 2  3  XPON12345678  Active  Online  success match
-----
Total: 3,  online: 2,  deactivate: 0,  failed: 1
```

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

Example 2: View detailed registration information of PON2 port ONT3.

```
OLT(config-interface-gpon-0/0)# show ont info 2 3
```

```
-----  
F/S           : 0/0  
Port          : 2  
ONT-ID        : 3  
Control flag  : active  
Run state     : online  
Config state  : success  
Match state   : match  
DBA type      : SR  
Distance(m)   : 1  
Validity mode : always  
Authentic mode : sn-auth  
SN            : XPON12345678  
Description   :  
Last up time  : 2000-01-01 09:16:46  
Last down time :
```

```
-----  
Line Profile-ID : 6  
Line Profile-name : 1530
```

```
-----  
FEC upstream : Disable  
OMCC encrypt : Off  
Qos mode     : PQ  
Mapping mode : VLAN
```

```
-----  
<T-CONT 0> DBA-Profile ID : 0
```

```
-----  
<T-CONT 1> DBA-Profile ID : 6  
  <Gem ID 1> US-GEM-CAR : - DS-ENCRYPT-MODE : off  
    Mapping-ID VLAN Priority  
    1 101 -
```

```
-----  
Service Profile-ID : 6  
Service Profile-name : 12
```

```
-----  
Port-type      Port-number  Max-adaptive-number  
-----  
ETH            4            -  
POTS           adaptive    2  
CATV           adaptive    1
```

```

-----
MAC learning switch      : enable
MAC aging time(s)       : 300
Multicast mode           : transparent
Multicast forward mode   : transparent
Multicast forward VLAN   : -
Native VLAN option       : concern
-----

Port  Port Service-type Index S-VLAN S-PRI C-VLAN C-PRI ENCAP S-PRI
type  ID
-----
ETH   1   Translation   1    101   -    101   -    -    -
ETH   2   Translation   1    101   -    101   -    -    -
ETH   3   Translation   1    101   -    101   -    -    -
ETH   4   Translation   1    101   -    101   -    -    -
IHOST 1   Transparent   -     -     -     -     -    -    -
-----

Port-type  Port-ID      IGMP-mode          IGMP-VLAN  IGMP-PRI
Max-MAC-Count
-----
ETH        1          transparent        -           -          unlimited
ETH        2          transparent        -           -          unlimited
ETH        3          transparent        -           -          unlimited
ETH        4          transparent        -           -          unlimited
-----

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

```

20.2.Policy-auth ONT and Batch Delivery Configuration Manage

20.2.1.Enable or Disable Global Policy-auth ONT

Command	OLT(config)# ont policy-auth <enable disable>
View	config view
Description	This command is used to enable or disable the global ONT policy authentication function. The default policy adopted by the OLT is that the ONT defaults to match the line profile 0 and the service profile. The OLT supports the following methods to match different ONTs, and then match different configurations for different ONTs.

enable/disable	Enable:Enable policy-auth of ont Disable:Disable policy-auth of ont
-----------------------	--

【 Example 】

Example 1: Enable global ONT policy authentication.

```
OLT(config)# ont policy-auth enable

OLT(config)#
```

20.2.2.Enable or Disable Policy-auth ONT Under PON Port

Command	OLT(config-interface-gpon-0/0)# ont policy-auth {<port-id> all} <switch>
View	gpon interface view
Description	This command is used to enable or disable policy-auth of ont under OLT PON port.
<port-id>	Pon port id,range for 1-16.
all	Enable or disable policy authentication for all PON ports on the OLT.
<switch>	Enable: Enables the ONT policy authentication mode. Disable: Disables the ONT policy authentication mode.

【 Example 】

Example 1: Enable the ONT policy authentication mode on the pon1 port.

```
OLT(config-interface-gpon-0/0)# ont policy-auth 1 enable

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

20.2.3.Config Policy-auth ONT Mode

Command	OLT(config)# ont policy-auth mode {all equid-auth equid-swver-auth vendor-auth } to { loid-auth loid-password-auth password-auth sn-auth sn-password-auth} {always once-no-aging }
View	Config view
Description	This command is used to configure the mode of ONT policy authentication.
<port-id>	Specifies the OLT of the PON to support policy authentication. The value ranges from 1 to 16.

<p>{all equid-auth equid-swver-auth vendor-auth }</p>	<p>Specifies the mode of ONT policy authentication: All: Configures all the ONTs in batches. Equid-auth: Subsequent delivery of configurations based on the device model of the ONT Equid-swver-auth: Subsequent delivery of the configuration according to the device model + software version number of the ONT Vendor-auth: Subsequent delivery of configurations based on the vendor ID of the ONT.</p>
<p>{ loid-auth loid-password-auth password-auth sn-auth sn-password-auth }</p>	<p>The registration method of the ONT in the ONT policy authentication is registered in the way of the password under the function of loid, loid+password, and password, sn, and sn+sn under sn.</p>
<p>always</p>	<p>Always is a discovery mode for password authentication and LOID and LOID+CHECKCODE authentication. This discovery mode means that after the user passes the authentication, the SN of the ONT is modified and can still go online.</p>
<p>once-no-aging</p>	<p>When the ONT is in the On-on-aging mode, the timeout period is not set, that is, password authentication can always be performed.</p>

【Example】

Example 1: Configure the policy authentication mode of the ONT as the device model. The ONT registration mode is SN. The discovery mode is always.

```
OLT(config)# ont policy-auth mode equid-auth to sn-auth always

OLT(config)#
```

20.2.4.Config Policy-auth ONT Mode and Batch Delivery

Configuration Match Mode

<p>Command</p>	<p>OLT(config)# ont policy-auth policy {all equid-auth < EQUIPMENT-ID> equid-swver-auth < EQUIPMENT-ID> < SOFTWARE-VER> vendor-auth < VENDOR-ID>} { ont-lineprofile-id < Profile-ID> ont-lineprofile-name < Profile-name>} { ont-srvprofile-id < Profile-ID> ont-srvprofile-name < Profile-name> }</p>
<p>View</p>	<p>Config view</p>

Description	This command is used to configure the configuration of the batch in the ONT policy. The main configuration is to deliver the line profile and service profile in batches.
all	Assign line template and service template configuration to all ONTs in batches.
{equid-auth < EQUIPMENT-ID >	The line template and service template are configured in batches according to the model of the matching ONT. The model supports 1-20 characters.
equid-swver-auth < EQUIPMENT-ID > < SOFTWARE-VER >	The line template and service template are configured in batches according to the model number and software version number of the matching ONT. The model supports 1-20 characters and the software version number supports 1-14 characters.
vendor-auth < VENDOR-ID>	The line profile and service profile configuration are delivered in batches according to the vendor ID of the matching ONT. The maximum number of characters supported is 4 characters.
<profile-id>	ID of the ONT template to be delivered in batches, ranging from 0 to 512.
<profile-name>	ID of the ONT template to be delivered in batches, ranging from 0 to 512.

【 Example 】

Example 1: Set the matching ONT vendor ID to XPON to deliver the line profile and service template id 5 in batches.

```
OLT(config)# ont policy-auth policy model-auth 0x31303053 ont-lineprofile-id 10
ont-srvprofile-id 10

OLT(config)#
```

20.2.5.Show Policy-auth ONT Configuration Information

Command	OLT(config)# show ont policy-auth
View	Config view
Description	This command is used to view the configuration information of the ONT policy authentication on the OLT.

【 Example 】

Example 1: View the policy authentication configuration information of the ONT on 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)#

```

20.3.ONT Basic Function Management

20.3.1.Add ONT Description Information

Command	OLT(config-interface-gpon-0/0)# ont description <port-id> <ONT-id> <description >
View	gpon interface view
Description	This command is used to add description for ontt
<port-id>	Pon port id,range for 1-16
<ONT-id>	Ont id,range for 1-64
<description>	Description info of ont,it supports 1-64 strings.

【 Example 】

Example 1: Add description “test” for ont 1 in pon1.

```

OLT(config-interface-gpon-0/0)# ont description 1 1 test

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

```

20.3.2.Delete ONT Description Information

Command	OLT(config-interface-gpon-0/0)# no ont description <port-id> <ONT-id>
View	gpon interface view
Description	This command is used to delete the description information of the ONT.
<port-id>	Specifies the PON port number where the ONT resides. The value is

	1-16.
<ONT-id>	Specifies the ONT id of the description to be deleted, in the range of 1-128.

【Example】

Example 1: Delete the description of ONT1 under PON1 port.

```
OLT(config-interface-gpon-0/0)# no ont description 1 1

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

20.3.3.Active ONT

Command	OLT(config-interface-gpon-0/0)# ont activate <port-id> {<ONT-id> all}
View	Gpon interface view
Description	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.
<port-id>	Pon port id,range for 1-16
<ONT-id> all	ONT-id: The ONT id to be activated, in the range of 1-128. All: activate all ONTs

【Example】

Example 1: Activate the first ONT under the PON1 port

```
OLT(config-interface-gpon-0/0)# ont activate 1 1

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

20.3.4.Deactive ONT

Command	OLT(config-interface-gpon-0/0)# ont deactivate <port-id> {<ONT-id> all}
View	gpon interface view
Description	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>	Specifies the PON port number where the ONT is located. The value is 1-16.

<ONT-id> all	ONT-id: The ONT id to be deactivated, in the range of 1-128. All: To deactivate all ONTs
---------------------------	---

【Example】

Example 1: Disactive the ont 1 in pon 1.

```
OLT(config-interface-gpon-0/0)# ont deactivate 1 1

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

20.3.5.Reboot ONT

Command	OLT(config-interface-gpon-0/0)# ont reboot <port-id> {<ONT-id > all}
View	gpon interface view
Description	This command is used to reboot the specified ont or all of the ont.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16
<ONT-id> all	ONT-id: The ONT id of the ONT to be restarted. The value is 1-128. All: Restarts all ONTs under the PON port.

【Example】

Example 1: Reboot the ont 1 in pon 1.

```
OLT(config-interface-gpon-0/0)# ont reboot 1 1

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

20.3.6.ONT Remote Manage IP (iphost)Function Config

Command	OLT(config-interface-gpon-0/0)# ont ipconfig <port-id> <ONT-id > ip-index < IP-host-index > {dhcp vlan < VLAN-ID > priority < VLAN-priority>} OLT(config-interface-gpon-0/0)# ont ipconfig <port-id> <ONT-id > ip-index < IP-host-index > {static ip-address <ONT-IP> mask < ONT-subnet-mask> {gateway < ONT gateway> pri-dns < ONT-primary-DNS> slave-dns < ONT-slave-DNS> vlan < VLAN-ID> priority < VLAN-tag-priority>}}
View	gpon interface view
Description	This command is used to configure the iphost function of the ONT, including management IP address, subnet mask, gateway,

	management vlan, and priority.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ONT-id: Specifies the ONT id of the ONT to be configured. The value is 1-128.
ip-index < IP-host-index >	Configure an IP host interface index. The value ranges from 0 to 1.
dhcp	Configure the IP address of the ONT as the DHCP dynamic acquisition mode.
vlan < VLAN-ID >	Configure the management VLAN of the ONT, in the range of 1-4094.
priority < VLAN-priority>	Configure the priority of the management VLAN of the ONT to take effect on the ONT. The higher the priority value, the higher the priority, the value range is 0-7.
static	Configure the IP address as static.
ip-address <ONT-IP>	Configure a static management IP address in the format X.X.X.X.
mask < ONT-subnet-mask >	Configure an address mask for the static IP address in the format X.X.X.X.
gateway < ONT gateway>	Configure the IP address of the gateway of the ONT management network on the same network segment as the configured static IP address. The format is X.X.X.X.
pri-dns < ONT-primary-DNS >	Configure the IP address of the primary DNS server. The DNS server is used to resolve the IP address through the domain name or obtain the domain name information through the IP address in the format of X.X.X.X.
slave-dns < ONT-slave-DNS >	Configure the IP address from the DNS server in the format X.X.X.X.

【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-gpon-0/0)# ont ipconfig 1 1 ip-index 0 ip-address 192.168.101.1
```

```
mask 255.255.255.0 gateway 192.168.101.254 vlan 101 priority 0
```

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

Example 2: Configure the management IP address of PON1 port ONT2 as dhcp mode.

```
OLT(config-interface-gpon-0/0)# ont ipconfig 1 1 ip-index 0 dhcp vlan 101 priority 0
```

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

20.3.7.Delete ONT Remote Manage IP (iphost)Function

Command	OLT(config-interface-gpon-0/0)# no ont ipconfig <port-id> <ONT-id> ip-index <IP-host-index>
View	gpon interface view
Description	This command is used to delete the iphost function of the ONT, including management IP address, subnet mask, gateway, management vlan, priority, and so on.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ONT-id: The ONT id of the ONT of the management ip to be deleted. The value is 1-128.
ip-index <IP-host-index >	Specifies the IP Host interface index to be deleted. The value ranges from 0 to 1.

【Example】

Example 1: Delete the management IP of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# no ont ipconfig 1 1
```

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

20.3.8.Show ONT Remote Manage IP (iphost)

Command	OLT(config-interface-gpon-0/0)# show ont ipconfig <port-id> <ONT-id> ip-index <IP-host-index>
View	gpon interface view
Description	This command is used to view the iphost configuration of the ONT and the status of the iphost.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.

<ONT-id>	ONT-id: The ONT id of the ONT of the management ip to be viewed. The value is 1-128.
-----------------------	---

【 Example 】

Example 1: View the management IP of PON3 port ONT1.

```

OLT(config-interface-gpon-0/0)# show ont ipconfig 3 1
-----
ONT IP host index      : 0
ONT config type       : DHCP
ONT IP                 : -
ONT subnet mask       : -
ONT gateway           : -
ONT primary DNS       : -
ONT slave DNS         : -
ONT manage VLAN       : 100
ONT manage priority   : 1
-----
OLT(config-interface-gpon-0/0)#

```

20.3.9.Show ONT Firmware Version

Command	OLT(config-interface-gpon-0/0)# show ont version <port-id> {<ONT-id> all}
View	Config view or gpon interface view
Description	This command is used to query the information about the version of the ONT. You can query the software and hardware versions of the ONT, and the manufacturer.
<port-id>	The PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ID of the ONT to be viewed. If the ONT ID is specified after the command, the detailed version information of the ONT is displayed. The value ranges from 1 to 128.
all	View the version information of all ONTs on the specified PON port. This command mainly displays some brief version information of the ONT.

【 Example 】

Example 1: Query the version information of the ONT numbered 2 on the PON2 port.

```

OLT(config-interface-gpon-0/0)# show ont version 2 2
-----

```

Frame/Slot	: 0/0
Port	: 2
ONT-ID	: 2
Vendor-ID	: xPON
ONT Version	: HZ660.1A
Product-ID	: 0000
Equipment-ID	: ONT1
Main Software Version	: V2.1.2
Main Software is commit	: yes
Main Software is active	: yes
Standby Software Version	: V2.1.0
Standby Software is commit	: no
Standby Software is active	: no

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

20.3.10.Show ONT Capability Information

Command	OLT(config-interface-gpon-0/0)# show ont capability <port-id> <ONT-id>
View	Config view or gpon interface view
Description	This command is used to show ont capability info,including ont port type,number and etc.
<port-id>	The PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ID of the ONT to be viewed, in the range of 1-128.

【Example】

Example 1: Query the actual capability set information of the ONT numbered 2 on the PON2 port.

OLT(config-interface-gpon-0/0)# show ont capability 2 2	

Frame/Slot	: 0/0
Port	: 2
ONT-ID	: 2
ONT TYPE	: SFU/HGU
OMCC version	: 0xA0
Number of uplink PON ports	: 1
Number of POTS ports	: 0
Number of ETH ports	: 1

```

Number of VEIP           : 1
Number of CATV UNI ports : 0
Number of GEM ports      : 256
Number of T-CONTs       : 15
The type of flow control  : PQ + Car
-----
OLT(config-interface-gpon-0/0)#

```

20.3.11. Show ONT Configured Capability

Command	OLT(config-interface-gpon-0/0)# show ont config-capability <port-id> <ONT-id>
View	GPON interface view
Description	This command is used to query the capability set information of the user-configured ONT. The queried user-configured ONT capability set can be compared with the actual capability set of the ONT to check whether the capabilities match. It is mainly the ONT capability set information of the service template configuration.
<port-id>	The PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ID of the ONT to be viewed, in the range of 1-128.

【Example】

Example 1: Show config-capability of ont 3 in pon 3.

```

OLT(config-interface-gpon-0/0)# show ont  config-capability 3 3
-----
Frame/Slot           : 0/0
Port                 : 3
ONT-ID               : 3
Number of ETH ports  : 0
Number of POTS ports : 0
Number of CATV ports : 1
Number of GEM ports  : 1
Number of T-CONTs   : 2
-----
OLT(config-interface-gpon-0/0)#

```

20.3.12. Show ONT Configured Failed Reason

Command	OLT(config-interface-gpon-0/0)# show ont failed-config <port-id> <ONT-id>
View	gpon interface view
Description	This command is used to check what causes the failure of the configuration status of the ONT.
<port-id>	The PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ID of the ONT to be viewed, in the range of 1-128.

【 Example 】

Example 1: Query the cause of the failure of the ONT configuration state with the number 1 on the PON3 port.

```

OLT(config-interface-gpon-0/0)# show ont failed-config 3 1
-----
Frame/Slot           : 0/0
Port                 : 3
ONT-ID               : 1
-----
CATV port 1         : shutdown
-----

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

```

20.3.13.Show ONT Opitcal Power Information

Command	OLT(config-interface-gpon-0/0)# show ont optical-info <port-id> {<ONT-id> all}
View	gpon interface view
Description	This command is used to query information about the ONT optical power of a PON port. Generally, when performing routine maintenance or troubleshooting on an ONT, you can use this command to query the optical power information of the ONT to determine whether the optical power of the ONT is normal.
<port-id>	The PON port number where the ONT is located. The value is 1-16.
<ONT-id>	ID of the ONT to be viewed, in the range of 1-128.
all	View the optical power information of all ONTs on a specified PON port.

【 Example 】

Example 1: Query the optical power information of the ONT numbered 1 on the PON3 port.

```

OLT(config-interface-gpon-0/0)# show ont optical-info 3 1
-----
Frame/Slot           : 0/0
Port                 : 3
ONT-ID               : 1
Voltage(V)           : 3.28
Tx optical power(dBm) : 2.73
Rx optical power(dBm) : -17.12
Laser bias current(mA) : 9.95
Temperature(C)       : 35.24
-----

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

```

20.3.14. Show ONT Registered & Online Number Under Pon Port

Command	OLT(config-interface-gpon-0/0)# show ont register-statistics {<port-id> all}
View	config view or gpon interface view
Description	This command is used to query the registration and online number of ONTs on a PON port.
<port-id>	Specify which PON port needs to be viewed.
all	View the number of ONT registrations and online connections under all PON ports.

【 Example 】

Example 1: Query the number of ONT registrations and onlines on the PON3 port.

```

OLT(config-interface-gpon-0/0)# show ont register-statistics 3
-----
F/S P   Autofind   Authenticated   Online
-----
0/0 3   0             3               1
-----

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

```

20.4. ONT Upgrade Management

20.4.1. Transfer ONT Firmware to OLT

Command	OLT(config)# load file {ftp <ip-address> <FTP-user-name> <FTP-user-password> <FILE-NAME>} {tftp <ip-address> <FILE-NAME>}
View	Config view
Description	This command is used to transfer the upgrade file of the ONT to the OLT.
ftp	Use the ftp protocol to transfer ONT upgrade files to the OLT.
<ip-address>	IP address of ftp or tftp server, format X.X.X.X
<FTP-user-name> >	User name of the ftp server, ranging from 1 to 32 characters.
<FTP-user-password> word>	Access password of the ftp server, ranging from 1 to 32 characters.
<FILE-NAME>	The name of the upgrade file of the ONT, ranging from 1 to 64 characters. The extension of the ONT upgrade file is required.
tftp	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)#
```

20.4.2. Select Need Upgrade ONT

Command	OLT(config)# ont load select <FrameID/SlotID> {all <port-id>} {<ont-list> all}
View	Config view
Description	This command is used to configure which ONTs need to be upgraded.
<FrameID/SlotID> D>	Configure the ONT upgrade on the specified card. The value is 0/0.
all <port-id>	Configure the ONT upgrade on the specified PON port. The port-id value is 1-16. All is configured to upgrade all ONTs under PON
<ont-list> all}	Configure which ONTs of the specified PON interface need to be upgraded. The ont-list value is 1-128, and the range can be specified. The format is 1-17, 128.

	All is configured to configure all ONT upgrades under the specified PON.
--	--

【Example】

Example 1: Configure an ONT with an ONT id of 1-6 on the PON1 port to be upgraded.

<pre>OLT(config)# ont load select 0/0 1 1-6 Number of ONTs that can be added: 6, success: 0 OLT(config)</pre>
--

20.4.3.Start or Stop Upgrade ONT

Command	<pre>OLT(config)# ont load start <FrameID/SlotID> <FILENAME > activemode {graceful immediate next-startup} OLT(config)# ont load stop <FrameID/SlotID></pre>
View	Config view
Description	This command is used to start or stop the ONT upgrade.
load start	Configure startup ONT upgrade.
<FrameID/SlotID>	Configure the ONT to start the upgrade on the specified board. The value is 0/0.
<FILENAME >	Configure the ONT upgrade file name for starting upgrade.
activemode	Select the effective mode. When not input, the default is ONT. The next time the restart is started, the load takes effect.
graceful	The effective mode of the ONT loading policy is that the graceful reset takes effect. That is, after loading the file to the ONT according to the loading policy, the ONT determines 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 ONT waits for up to four hours, and when it is exceeded, it is forced to restart.
immediate	After the loading is completed, the ONT restarts immediately to make the loading take effect.
next-startup	After the loading is completed, the ONT will take effect when it is restarted next time.
load stop	Delete the ONT load data. This parameter is enabled when you want to immediately delete all load tasks and data on the ONT.

【 Example 】

Example 1: Start the ONT to use the 111.tar upgrade file for upgrade. After the upgrade, it will automatically restart to make the upgrade take effect.

```
OLT(config)# ont load start 0/0 111.tar activemode immediate

OLT(config)
```

20.4.4.Show ONT Upgrade Configuration Information

Command	OLT(config)# show ont load info <FrameID/SlotID>
View	Config view
Description	This command is used to view the configuration information of the ONT upgrade that needs to be upgraded.
<FrameID/SlotID>	Specifies the configuration information of the ONT upgrade under which the card is viewed. The value is 0/0.

【 Example 】

Example 1: Check the ONT upgrade information configured on the OLT 0/0 card.

```
OLT(config)# show ont load info 0/0
-----
File name      :
Load state     : stop
Active mode    : immediate
-----

OLT(config)#
```

20.4.5.Show ONT Upgrade Progress

Command	OLT(config)# show ont load info <FrameID/SlotID>
View	Config view
Description	This command is used to check the progress of the ONT upgrade.
<FrameID/SlotID>	Specify which board to view the ONT upgrade progress, which is 0/0.

【 Example 】

Example 1: Check the progress of the ONT upgrade under the OLT 0/0 board.

```
OLT(config)# show ont load select 0/0
-----
```


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)#				

20.5.ONT WAN Connect Management

20.5.1.Show ONT WAN Connection Information

Command	OLT(config-interface-gpon-0/0)# show ont wan config <port-id> <ONT-id >
View	Gpon interface view
Description	This command is used to view the created WAN connection information of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
< ONT-id >	ONT-id: The ONT id of the ONT WAN connection information to be viewed. The value is 1-128.

【Example】

Example 1: View WAN connection information of PON2 port ONT1

OLT(config-interface-gpon-0/0)# show ont wan config 2 1	

WAN ID	: 1
Connection name	: 1_TR069_R_VID_10
Connection enable	: Enable
Connection status	: Up
IP Version	: IPv4
Service type	: TR069
VLAN	: Enable
VLAN id	: 100
VLAN priority	: 0
VLAN DEI	: 1
Connection type	: DHCP
IPv4 address	: 192.168.5.133

IPv4 mask	: 255.255.255.0
IPv4 gateway	: 192.168.5.1
Automatically get DNS address	: Enable
IPv4 primary_DNS	: 192.168.5.1
IPv4 secondary_DNS	: 8.8.8.8
NAT enable	: Disable
MTU	: 1500
LAN DHCP	: Enable
Bridge port binding	: port1 ssid1

20.5.2. Modify ONT WAN Connections

Command	<pre> OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> ipv4 bridge vlan <VLAN-ID> priority <VLAN-priority> OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> ipv4 dhcp {{auto-get-dns vlan <VLAN-ID> priority <VLAN-priority> } {primary-dns <ONT-primary-DNS> secondary-dns < ONT-slave-DNS> vlan <VLAN-ID> priority <VLAN-priority>}} OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> ipv4 pppoe username <NAME> password < PASSWORD> vlan <VLAN-ID> priority <VLAN-priority> dial-on-demand inactivity-time <time-value> OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> ipv4 static ip <ONT-IP> mask <ONT-subnet-mask> gateway < ONT-gateway> primary-dns <ONT-primary-DNS> secondary-dns <ONT-slave-DNS> <VLAN-ID> priority <VLAN-priority> </pre>
View	Gpon interface view
Description	<p>This command is used to modify the ONT's WAN connection, including static IP address, dhcp, bridge and pppoe WAN connection. This configuration is mainly suitable for HGU terminals with WiFi. This command is only used to modify the WAN connection information of the ONT. The WAN connection OLT that creates the ONT is temporarily not supported.</p>
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.

< ONT-id >	ONT-id: The ONT id of the ONT of the WAN connection to be modified. The value is 1-128.
< Wan-connection-ID >	The index of the WAN connection has been created. The value ranges from 0 to 32.
bridge	Modify the type of WAN connection to bridge.
<VLAN-ID>	Specifies the VLAN of the WAN connection, which is 1-4094.
<VLAN-priority>	Specifies the VLAN priority of the WAN connection, which is 0-7.
dhcp	Modify the type of WAN connection to dhcp.
auto-get-dns	Modify the DHCP mode WAN connection to automatically obtain the DNS from the upper server.
primary-dns <ONT-primary-DNS>	Modify the DHCP mode WAN connection to manually specify the static primary DNS, format X.X.X.X.
secondary-dns < ONT-slave-DNS >	Modify the DHCP mode WAN connection to manually specify the static secondary DNS, format X.X.X.X.
vlan < VLAN-ID >	Change the WAN connection VLAN of the ONT, ranging from 1-4094.
priority < VLAN-priority>	The priority of the ONT WAN connection VLAN is modified and takes effect on the ONT. The higher the priority value, the higher the priority, the value range is 0-7.
pppoe	Modify the type of WAN connection to pppoe.
username <NAME>	Modify the pppoe account of pppoe's WAN connection.
password < PASSWORD>	Modify the pppoe password of the pppoe WAN connection.
<time-value>	Modify the rest time of pppoe dial-on-demand, ranging from 1-86400, in seconds.
static ip	Modify the type of the WAN connection to a static IP address.
<ONT-IP>	Modify the static IP address of the WAN connection in the format X.X.X.X.

mask < ONT-subnet-mask>	Modify the address mask of the static IP address of the WAN connection in the format X.X.X.X.
gateway < ONT gateway>	Modify the IP address of the WAN-connected gateway in the same network segment as the configured static IP address. The format is X.X.X.X.
pri-dns < ONT-primary-DNS>	Modify the IP address of the WAN connection primary DNS server. The DNS server is used to resolve the IP address through the domain name or obtain the domain name information through the IP address in the format of X.X.X.X.
slave-dns < ONT-slave-DNS >	Modify the DNS server IP address of the WAN connection in the format X.X.X.X.

【Example】

Example 1: Modify the WAN connection 1 of the PON1 port ONT1 to be brid, the vlan is 100, and the priority is 0.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 ipv4 bridge vlan 100 priority 0
OLT(config-interface-gpon-0/0)#
```

Example 2: Modify the WAN connection 2 of the PON1 port ONT1 to dhcp, and automatically obtain the DNS address from the server. The vlan is 200 and the priority is 0.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 2 ipv4 dhcp auto-get-dns vlan 200 priority 0
OLT(config-interface-gpon-0/0)#
```

Example 3: Modify the WAN connection 3 of the PON1 port ONT1 to pppoe, the pppoe username and password are test/test, vlan is 300, and the priority is 0.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 3 ipv4 pppoe username test password test vlan 300 priority 0
OLT(config-interface-gpon-0/0)#
```

Example 4: Modify WAN1 of PON1 port ONT1 as static IP address, ip address is 192.168.5.55, gateway 192.168.5.254, primary DNS address 8.8.8.8, slave DNS address is 4.4.4.4, vlan is 400, priority is 0

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 2 ipv4 static ip 192.168.5.55 mask 255.255.255.0 gateway 192.168.5.254 primary-dns 8.8.8.8 secondary-dns 4.4.4.4 vlan 400 priority 0
OLT(config-interface-gpon-0/0)#
```

20.5.3.Enable or Disable ONT WAN Connection

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> <ONT-id> <Wan-connection-ID> connection-enable <switch>
View	Gpon interface view
Description	This command is used to enable or disable the WAN connection.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
<ONT-id>	ONT-id: Sets the ONT id of the WAN connection to be enabled or disabled. The value is 1-128.
<Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<switch>	Enable: Enable ONT WAN connection Disable: Disable the WAN connection of the ONT.

【Example】

Example 1: Open WAN connection 1 of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 connection-enable enable
OLT(config-interface-gpon-0/0)#
```

20.5.4.Config ONT WAN Connection Name

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> <ONT-id> <Wan-connection-ID> connection-name <NAME>
View	Gpon interface view
Description	This command is used to name the WAN connection of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
<ONT-id>	ONT-id: ID of the WAN connection name to be configured, in the range of 1-128.
<Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<NAME>	Configure the name of the WAN to support 1-50 characters.

【Example】

Example 1: Name the WAN connection 1 of the PON1 port ONT1 as test.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 connection-name test
OLT(config-interface-gpon-0/0)#
```

20.5.5. Change ONT WAN Connection Binding Port

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> <ONT-id> <Wan-connection-ID> binding <ONT-port-id>
View	Gpon interface view
Description	This command is used to modify the actual port binding information of the ONT's WAN connection and ONT.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
<ONT-id>	ONT-id: Specifies the ONT id of the ONT to which the WAN connection is bound to the port. The value is 1-128.
<Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<ONT-port-id>	Modify the actual ONT port that needs to be bound to the WAN connection. The lan port of the ONT takes the value of port1-port4, and the WiFi SSID of the ONT takes the value of ssid1-ssid4.

【Example】

Example 1: Bind WAN connection 1 of PON1 port ONT1 to LAN1 and WiFi SSID1.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 0 binding port1 ssid1
OLT(config-interface-gpon-0/0)#
```

20.5.6. Change ONT WAN Connection Service-type

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> <ONT-id> <Wan-connection-ID> service-type <service-type>
View	Gpon interface view
Description	This command is used to modify the WAN connection service type of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
<ONT-id>	ONT-id: The ONT id of the ONT of the WAN connection service type

	to be modified. The value is 1-128.
< Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<service-type>	Modify the service type of the ONT WAN connection: Internet: for surfing the Internet Internet-tr069: both for internet and tr069 Internet-voip: both for internet and voice Internet-voip-tr069: both for internet, voice and tr069 Other: for iptv Tr069: for tr069 Voip: for voice Voip-tr069: both for voice and tr069

【 Example 】

Example 1: Change the WAN connection 1 service type of PON1 port ONT1 to internet-voip.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 service-type internet-voip
OLT(config-interface-gpon-0/0)#
```

20.5.7.Config ONT WAN Connection MTU

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> <ONT-id > < Wan-connection-ID> mtu <MTU-value>
View	Gpon interface view
Description	This command is used to configure the MTU value of the WAN connection of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
< ONT-id >	ONT-id: ONT id of the ONT of the WAN connection MTU. The value is 1-128.
< Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<MTU-value>	Configure the MTU of the WAN connection of the ONT. The value ranges from 64 to 1540.

【 Example 】

Example 1: Configure the MTU value of WAN connection 1 of PON1 port ONT1 to 1500.

```

OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 mtu 1500

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

```

20.5.8.Enable or Disable ONT WAN Connection NAT Function

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> nat <switch >
View	Gpon interface view
Description	This command is used to enable or disable the nat function of the WAN connection of the ONT. This feature is mainly used under WAN connections for dhcp, pppoe and static ip addresses.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
< ONT-id >	ONT-id: The ONT id of the ONT of the WAN connection to be configured. The value is 1-128.
< Wan-connection-ID>	Index of the created WAN connection, ranging from 0 to 32.
<switch >	Enable: Enable the nat function of the ONT WAN connection. Disable: Disables the nat function of the ONT WAN connection.

【 Example 】

Example 1: Turn on the nat function on the WAN connection 1 of the PON1 port ONT1.

```

OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 nat enable

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

```

20.5.9.Enable or Disable ONT LAN DHCP Function

Command	OLT(config-interface-gpon-0/0)# ont wan config <port-id> < ONT-id > < Wan-connection-ID> lan-dhcp <switch >
View	Gpon interface view
Description	This command is used to enable or disable the LAN side DHCP function of the ONT under the WAN connection. It is mainly used to allocate the IP address from the ONT side of the ONT.

<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16.
< ONT-id >	ONT-id: Specifies the ONT id of the dhcp function on the ONT LAN side. The value is 1-128.
< Wan-connection-ID >	Index of the created WAN connection, ranging from 0 to 32.
<switch >	Enable: Enable dhcp function on the ONT LAN side of the WAN connection. Disable: Disable the dhcp function on the ONT LAN side of the WAN connection.

【 Example 】

Example 1: Turn on the LAN side DHCP function of WAN connection 1 of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont wan config 1 1 1 lan-dhcp enable

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

20.6.ONT Port Management

20.6.1.ONT Port Native-vlan(access) VLAN Config

Command	OLT(config-interface-gpon-0/0)# ont port native-vlan <port-id> < ONT-id > eth <ONT-port-id> {vlan <VLAN-ID> priority <Priority>}
View	gpon interface view
Description	This command is used to configure the native-vlan for the ONT port, which is the access vlan. The vlan processing rules are as follows: For outgoing messages: <ul style="list-style-type: none"> • When the VLAN ID carried by the packet is the same as the ID of the native VLAN, the packet does not contain a VLAN tag (that is, untag). • When the VLAN ID carried by the packet is different from the native VLAN ID, the packet contains a VLAN tag. Add a Native VLAN to the inbound untagged packets. By default, the native VLAN of an Ethernet port is 1.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be configured, which is 1-128.

<ONT-port-id>	The ONT port id of the native-vlan is in the range of 1-8.
<vlan id>	Set the vlan id of the native-vlan on the ONT port, which is 1-4094.
<priority>	Optional, set the priority of the ONT port vlan.

【 Example 】

Example 1: Configure native-vlan 100 for eth port 1 of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 1 vlan 100

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

20.6.2.ONT Port Downstream and Upstream Rate Limit Config

Command	OLT(config-interface-gpon-0/0)# ont port car <port-id> < ONT-id > eth <eth-port-id> {inbound outbound}< traffic-profile-ID>
View	gpon interface view
Description	This command is used to set downstream rate limitation of ont port
<port-id>	Pon port id,range for 1-16
<ONT-id>	Ont id,range for 1-64
<eth-port-id>	eth port id,range for 1-24
inbound	Configure the upstream (ingress) speed limit function of the ONT port.
outbound	Configure the downstream (egress) speed limit function of the ONT port.
< traffic-profile-ID >	The traffic profile id of the ONT port is bound to the traffic profile. The bandwidth of the ONT port is bound to the traffic profile. You can use the OLT(config)# show traffic-profile all command to view which traffic templates are on the OLT.

【 Example 】

Example 1: Configure the upstream and downstream ports of the first Ethernet interface on the ONT1 of the PON1 port to be 500 Mbps (the traffic template ID is 6).

```
OLT(config)# show traffic-profile all
-----
  ID  Profile-name    CIR(kbps)  PIR(kbps)  CBS(bytes)  PBS(bytes)  Bind
-----
   6   XR500V          512000     512000     512000      512000      0
-----
```

```
OLT(config-interface-gpon-0/0)# ont port car 1 1 eth 1 inbound 6 outbound 6
OLT(config-interface-gpon-0/0)#
```

20.6.3. Show ONT Port Upstream and Downstream Rate Limit Config

Command	OLT(config-interface-gpon-0/0)# show ont port car <port-id> <ONT-id> eth all
View	Config view or gpon interface view
Description	This command is used to check the uplink and downlink bandwidth rate configuration on the ONT port.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be viewed, which is 1-128.
all	View the upstream and downstream bandwidth rate configurations of all ports on the ONT.

【Example】

Example 1: View the upstream and downstream bandwidth rate configurations of all ports on the PON2 port ONT2.

```
OLT(config-interface-gpon-0/0)# show ont port car 2 2 eth all
-----
F/S P  ONT Port Inbound Outbound
-----
0/0 2  2   1   6       6
-----
OLT(config-interface-gpon-0/0)#
```

20.6.4. Enable or Disable ONT Port Flow-control Function

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> <ONT-id> eth <eth-port-id> flow-control <switch>
View	gpon interface view
Description	This command is used to enable or disable the flow control function of the ONT Ethernet port.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be viewed, which is 1-128.

<eth-port-id>	ID of the Ethernet port of the ONT, in the range of 1-8.
<switch>	On: Enables the flow control function of the Ethernet port. Off: Disables the flow control function of the catv port.

【Example】

Example 1 : Enable the flow control function of the first Ethernet port of the PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 flow-control on

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

20.6.5.ONT Port Auto-negotiation Function Config

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> <ONT-id> eth <eth-port-id> auto-neg
View	gpon interface view
Description	This command is used to enable the auto-negotiation function of the ONT port.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be configured, which is 1-128.
<eth-port-id>	ID of the Ethernet interface to be auto-negotiated on the ONT port. The value ranges from 1 to 24.

【Example】

Example 1: Enable the first Ethernet port auto-negotiation function of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 auto-neg

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

20.6.6.ONT Port Speed and Duplex Mode Config

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> <ONT-id> eth <eth-port-id> speed <speed> dulepx full/half
View	gpon interface view
Description	This command is used to set the speed and duplex mode of ont port.
<port-id>	Specifies the PON port number where the ONT is located. The value is

	1-16.
< ONT-id >	The ONT id of the ONT to be configured, which is 1-128.
<eth-port-id>	ID of the Ethernet port of the ONT, in the range of 1-8.
<speed>	10: 10Mb/s 100: 100Mb/s 1000: 1000Mb/s
full/half	Full: full duplex mode Half: half duplex mode

【 Example 】

Example 1: Configure the first Ethernet port of PON1 port ONT1 to be at a rate of 1000 Mb/s and in full-duplex mode.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 speed 1000 duplepx full
OLT(config-interface-gpon-0/0)#
```

20.6.7.Enable or Disable ONT Port

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> < ONT-id > eth <eth-port-id> operational-state <switch>
View	gpon interface view
Description	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>	Specifies the PON port number where the ONT is located. The value is 1-16.
< ONT-id >	The ONT id of the ONT to be configured, which is 1-128.
<eth-port-id>	ID of the Ethernet port of the ONT, in the range of 1-8.
<switch>	On: Open the ONT port Off: Disable the ONT port.

【 Example 】

Example 1: Open the first port of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 operational-state on
OLT(config-interface-gpon-0/0)#s
```

20.6.8.Show ONT Port Configuration (Native-vlan/Speed)

Command	OLT(config-interface-gpon-0/0)# show ont port attribute <port-id> <ONT-id> eth all
View	Config view or gpon interface view
Description	This command is used to view the configuration of the ONT port (including native-vlan, port rate, and flow control).
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16
<ONT-id>	The ONT id of the ONT to be viewed, which is 1-128.
all	Viewing the configuration of all ports of the ONT.

【Example】

Example 1: View the configuration information of all ports on the PON2 port ONT2.

```

OLT(config-interface-gpon-0/0)# show ont port attribute 2 2 eth all
-----
  F/S P  ONT ONT  Auto-neg Speed  Duplex Port  Flow  Native Priority
          port          (Mbps)          switch control VLAN
-----
  0/0 2  2  1  enable  auto  auto  on  off  101  0
-----

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

```

20.6.9.Show ONT Port Status(Link Status/Speed)

Command	OLT(config-interface-gpon-0/0)# show ont port state <port-id> <ONT-id> eth all
View	Config view or gpon interface view
Description	This command is used to check the status of the ONT port (including the link status, the negotiation rate of the port), etc.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be viewed, which is 1-128.
all	View all port status of the ONT.

【Example】

Example 1: View all port status of PON2 port ONT2.

```

OLT(config-interface-gpon-0/0)# show ont port state 2 2 eth all

```

F/S	P	ONT	Port	Type	Speed(Mbps)	Duplex	Link-State
0/0	2	2	1	GE	-	-	down
0/0	2	2	2	-	-	-	-
0/0	2	2	3	-	-	-	-
0/0	2	2	4	-	-	-	-

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

20.6.10.ONT CATV Port Enable or Disable

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> <ONT-id> catv <catv-port-id> operational-status <switch>
View	gpon interface view
Description	This command is used to enable or disable the ONT CATV port.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
<ONT-id>	The ONT id of the ONT to be configured, which is 1-128.
<catv-port-id>	ID of the catv port of the ONT, ranging from 1 to 8.
<switch>	On: Enable catv port Off: disable the catv port

【Example】

Example1: Enable CATV port of ont 1 in pon 1.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 catv 1 operational-state on

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

20.6.11.Show ONT CATV Port Config Status

Command	OLT(config-interface-gpon-0/0)# show ont port attribute <port-id> <ONT-id> catv <catv-port-id> all
View	Gpon interface view
Description	This command is used to view the ONT CATV port configuration.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.

< ONT-id >	The ONT id of the ONT to be viewed, which is 1-128.
all	View all ONTV's CATV port configuration.

【 Example 】

Example 1: View CATV port configuration information of PON2 port ONT2.

```
OLT(config-interface-gpon-0/0)# show ont port attribute 2 2 catv all
-----
F/S P  ONT  ONT-Port  Port-Switch
-----
0/0 2  2    1          off
-----
OLT(config-interface-gpon-0/0)#
```

20.6.12.Enable or Disable ONT POTS Ports

Command	OLT(config-interface-gpon-0/0)# ont port attribute <port-id> < ONT-id > pots <pots-port-id> operational-state <switch>
View	Gpon interface view
Description	This command is used to enable or disable the voice port of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. The value is 1-16.
< ONT-id >	The ONT id of the ONT to be configured, which is 1-128.
<pots-port-id>	The voice port id of the ONT, in the range of 1-8.
<switch>	On: Open the ONT voice port Off: Disable the ONT voice port

【 Example 】

Example 1: Enable the first voice port of PON1 port ONT1.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 pots 1 operational-state on
OLT(config-interface-gpon-0/0)#
```

20.6.13.Show ONT Port Learned MAC Address Information

Command	OLT(config-interface-gpon-0/0)# show ont port learned-mac <port-id> < ONT-id > eth <eth-port-id>
View	Config view or gpon interface view

Description	This command is used to show learned-mac address of ont port
<port-id>	Pon port id,range for 1-16
<ONT-id>	Ont id,range for 1-64
all	All the eth port
<eth-port-id>	The specified ONT needs to view the learned port address id of the MAC address table. The value ranges from 1 to 8.

【Example】

Example 1: Check the MAC address table learned by port 1 of PON2 port ONT2.

```
OLT(config-interface-gpon-0/0)# show ont port learned-mac 2 2 eth 1
No mac address learned

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

21.OLT Service Virtual Port Configuration

The service virtual port is named service flow. It is a result of classifying user service traffic (referred to as traffic classifying) according to Ethernet packet characteristics on physical port or logical port, and is also Layer 2 logical channel for carrying services between the user and the new 8Port/16Port GPON OLT (determined packet layer 2 forwarding path)

When the number of users accessing device is large, the same user has multiple services (Internet, VoIP, IPTV, etc.). Different user services can be distinguished by configuring different service flows (so that they do not affect each other). Generally, different users services or different services of the same user are carried by different service flows.

The service virtual port is the basis for implementing various services on the new 8Port/16Port GPON OLT (must be configured). In addition to distinguishing service traffic, it is also the most granular division of user services. Differentiated and refined management can be implemented on the basis of this. Such as QoS processing, line identification and security policies.

Table 1: VLAN processing method

Tag-action	Processing method
add-double	<p>Add two layer tags. Add two layer valn tag to user-side packet: S-VLAN+C-VLAN. Applicable to:The S-VLAN is a QinQ VLAN, common VLAN or stacking VLAN. single service or service flow classified by the user-encapuser-encap flow.</p> <p>The S-VLAN is a QinQ VLAN, a Common VLAN, or a stacking VLAN.</p> <p>Inner-vlan: The inner VLAN after switching. When processing method is add-double or translate-and-double, the inner VLAN can be specified.</p>

default	By default, the C-VLAN carried on the user side does not change, and layer of S-VLAN is added. If VLAN is set to distinguish different services in the new 8Port/16Port GPON OLT, and you do not want to change the VLAN tag of the user-side packet. Use this mode.
translate	The C-VLAN carried by the user side is switched to a S-VLAN. This mode is used when only one VLAN tag is used to identify the user service and the service VLAN configured on the new 8Port/16Port GPON OLT is different from the VLAN in the user-side packet.
translate-and-add	Switch VLAN and add a layer of VLAN tag. The C-VLAN carried by the user side is switched to C-VLAN in a layer of VLAN, and then adding a layer S-VLAN and forming S+C two-layer VLAN uplink. This mode is used when two VLAN tags are used to identify user services (such as one-layer identity service and one-layer identity user), and the VLAN of the user-side packet is different from the user-side VLAN planned on the new 8Port/16Port GPON OLT. Inner-vlan: The inner VLAN after switching. When processing method is add-double or translate-and-double, the inner VLAN can be specified.
transparent	Transparent transmission mode, no VLAN changes are made. The C-VLAN carried by the user side is directly used as the S-VLAN. This mode can be used if the VLAN used to identify different services and the VLAN of user-side packets are the same on the new 8Port/16Port GPON OLT.

21.1.Create Service Virtual Port

21.1.1.Create Single Service Virtual Port

Command	OLT(config)# service-port {<service-port-Start_index > autoindex} vlan <vlan-id> gpon <frameid/slotid> port <port-id> ont <ont-id> gemport <gemport-id> tag-action {default add-double} inbound {[index <Traffic profile index>]}[name <Traffic profile name>]} outbound {[index <Traffic profile index>]}[name <Traffic profile name>]}
View	Config view
Description	This command is used to create single service virtual port. Single service virtual port refers to a user port passing only one type of service or not distinguishing between service types.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<autoindex>	When creating service virtual port, you can specify the index value

	or not. If not specified, the system automatically assigns an idle index value.
<vlan-id>	service vlan, used to identifier only VLAN. Range for: 1-4094
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<ont-id>	ONT ID. When need to specify ont service virtual port, range for 1-128
<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range is 1-30.
Tag-action	For details, see Table 1 of this chapter.
inbound	In port direction
outbound	Out port direction
<Traffic profile index>	Traffic profile index
<Traffic profile name>	Traffic profile name

【Example】

Example: Create a single service virtual port 3, service vlan as 100, vlan tag processing method as default, binding traffic profile named test.

```
OLT(config)# service-port 3 vlan 100 gpon 0/0 port 3 ont 1 gemport 1 tag-action default
inbound name test outbound name test
config service-port total 1, failed 0.

OLT(config)#
```

21.1.2.Create multi-service virtual port

Command	<pre>OLT(config)#service-port {<service-port-Start_index> autoindex} vlan <vlan-id> gpon <frameid/slotid> port <port-id> ont <ont-id> gemport <gemport-id> multi-service { [user-vlan<user-vlan-id>] [ethertype<ipv4oe ipv6oe pppoe >] [user-8021p <priority> user-vlan <user-vlan-id>] } tag-action {default translate translate-and-add transparent } inbound {[index <Traffic profile index>] [name <Traffic profile name>]}</pre>
---------	---

	outbound {[index <Traffic profile index>]}{[name <Traffic profile name>]}
View	Config view
Description	This command is used to create multi-service virtual port. Multi-service virtual port service refers to a user port that needs to carry multiple services and distinguish the service type.
<service-port-Start_index>	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<autoindex>	When creating service virtual port, you can specify the index value or not. If not specified, the system automatically assigns an idle index value.
<vlan-id>	service vlan, used to identifier only VLAN. Range for: 1-4094
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<ont-id>	ONT ID. When need to specify ont service virtual port, range for 1-128
<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range is 1-30.
multi-service	Indicates multi-service virtual port services. Multi-service virtual port service refers to user port that needs to carry multiple services and distinguish the service type.
<user-vlan-id>	User side VLAN ID. Use this parameter when you need to distinguish users by user side VLAN. Range for 1-4094.
<priority>	User side vlan priority value. Use this parameter when you need to distinguish users by user side priority. Range for 0-7.
ethertype	User side service Ethernet type. Use this parameter when you need to distinguish users by user side business Encapsulation type. Range for: pppoe, ipv6oe, ipv4oe When user side packet is a PPPoE packet (that is, a packet with an Ethernet type of 0x8863 and 0x8864), "pppoe" is used. When user side packet is an IPv6 packet (that is, a packet with an Ethernet type of 0x86dd), "ipv6oe" is used.

	When user side message is a message other than the "pppoe" and "ipv6oe" messages (that is, the message whose Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.
Tag-action	For details, see Table 1 of this chapter.
inbound	In port direction
outbound	Out port direction
<Traffic profile index>	Traffic profile index
<Traffic profile name>	Traffic profile name

【Example】

Example 1: Create a multi-service port 5, service vlan as 100, user van as 100, vlan tag processing method as transparent, binding traffic profile named test.

```
OLT(config)# service-port 5 vlan 100 gpon 0/0 port 3 ont 1 gemport 1 multi-service
user-vlan 100 tag-action transparent inbound name test outbound name test
config service-port total 1, failed 0.

OLT(config)#
```

21.1.3. Configure Batch Single-service Virtual Ports Automatically

Command	OLT(config)# service-port autoconfig vlan <vlan-id> gpon <frameid/slotid> port <port-id> gemport <gemport-id> tag-action {default add-double } inbound {[index <Traffic profile index>]}[[name <Traffic profile name>]] outbound {[index <Traffic profile index>]}[[name <Traffic profile name>]]
View	Config view
Description	This command is used to automatically configure single service virtual port for all ONUs on the same PON port.
< vlan-id>	service vlan, used to identifier only VLAN. Range for: 1-4094
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range

	is 1-30.
Tag-action	For details, see Table 1 of this chapter.
inbound	In port direction
outbound	Out port direction
<Traffic profile index>	Traffic profile index
<Traffic profile name>	Traffic profile name

【Example】

Example 1: Automatically configure a single service flow for all ONUs corresponding to PON3 port, service vlan tag as 100, vlan tag vlan tag processing method as default, binding traffic profile named test.

```
OLT(config)# service-port autoconfig vlan 100 gpon 0/0 port 3 gemport 1 tag-action
default inbound name test outbound name test
config service-port autoconfig complete, total 1, failed 0.
```

```
OLT(config)#
```

21.1.4. Configure Batch Multi-service Virtual Ports Automatically

Command	OLT(config)# service-port autoconfig vlan <vlan-id> gpon <frameid/slotid> port <port-id> gemport <gemport-id> multi-service user-vlan<user-vlan-id> tag-action {default translate translate-and-add transparent } inbound { [index <Traffic profile index>] [[name <Traffic profile name>]] } outbound { [index <Traffic profile index>] [[name <Traffic profile name>]] }
View	Config view
Description	This command is used to automatically configure multi-service virtual port for all ONUs on the same PON port.
< vlan-id>	service vlan, used to identifier only VLAN. Range for: 1-4094
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<ont-id>	ONT ID. When need to specify ont service virtual port, range for 1-128

<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range is 1-30.
multi-service	Indicates multi-service virtual port services. Multi-service virtual port service refers to user port that needs to carry multiple services and distinguish the service type.
<user-vlan-id>	User side VLAN ID. Use this parameter when you need to distinguish users by user side VLAN. Range for 1-4094.
Tag-action	User side vlan priority value. Use this parameter when you need to distinguish users by user side priority. Range for 0-7.
inbound	In port direction
outbound	Out port direction
<Traffic profile index>	Traffic profile index
<Traffic profile name>	Traffic profile name

【 Example 】

Example 1: Automatically configure a multi-service flow for all ONUs corresponding to PON3 port, service vlan tag as 100, user vlan tag as 100, vlan tag processing method as transparent, binding traffic profile named test.

```
OLT(config)# service-port autoconfig vlan 100 gpon 0|0 port 3 gemport 1 multi-service
user-vlan 100 tag-action transparent inbound name test outbound name test
config service-port autoconfig complete, total 1, failed 0.

OLT(config)#
```

21.1.5. Configure Service Virtual Port Creation Mode

Command	OLT(config)# service-port automode gpon <frameid/slotid> port<port-id> <auto manual >
View	Config view
Description	This command is used to configure pon port service virtual port creation mode.
<frameid/slotid>	the default value is 0/0

<port-id>	Port ID, range for 1-16
<create mode>	auto: automatic creation mode manual : manual creation mode

【Example】

Example 1: Configure PON1 port service virtual port creation mode for manual mode.

```
OLT(config)# service-port automode gpon 0/0 port 1 manual
config service-port automode complete, total 1, failed 0.

OLT(config)#
```

21.1.6. Configure Service Virtual Port Description Information

Command	OLT(config)# service-port desc <service-port-index> <description>
View	Config view
Description	This command is used to set service virtual port description information. To facilitate maintenance, you can use this command to set identification information for the service virtual port. After the service virtual port description is successfully configured, you can use the service virtual port description information.
<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<description>	Service virtual port description information, range for 1-64

【Example】

Example 1: Configure service virtual port 3 description information for test

```
OLT(config)# service-port desc 3 test

OLT(config)#
```

21.1.7. Configure service virtual port performance statistics switch

Command	OLT(config)# service-port statistics performance {<service-port-index> <all> [gpon<frameid/slotid> port<port-id>]} {disable enable}
View	Config view
Description	This command is used to enable or disable service virtual port performance statistics function.

<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<all>	All service virtual ports
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
disable disable	disable: turn off service virtual port performance statistics function. enable: turn on service virtual port performance statistics function.

【 Example 】

Example 1: turn on service virtual port 3 performance statistics function

```
OLT(config)# service-port statistics performance 3 enable

OLT(config)#
```

21.1.8. Clear service virtual port performance statistics

Command	OLT(config)# service-port statistics performance {<service-port-index> <all> [gpon<frameid/slotid> port<port-id>]} clear
View	Config view
Description	This command is used to clear service virtual port performance statistics.
<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<all>	All service virtual ports
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16

【 Example 】

Example 1: Clear service virtual port 3 performance statistics

```
OLT(config)# service-port statistics performance 3 clear

OLT(config)#
```

21.1.9. Configure service virtual port administration state

Command	OLT(config)# service-port <service-port-Start_index > <service-port-End_index > adminstatus {disable enable}
View	Config view
Description	This command is used to configure single or many ports administration state.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<service-port-End_index >	The ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
disable enable	disable: turn off service virtual port enable: turn on service virtual port

【Example】

Example 1: turn off service virtual port 1-3

```
OLT(config)# service-port 1 3 adminstatus disable
config service-port admin status, failed 0.

OLT(config)#
```

Example 2: trun on service virtual port 1

```
OLT(config)# service-port 1 adminstatus enable

OLT(config)#
```

21.1.10.Modify Service Virtual Port Vlan Tag Processing Method

Command	OLT(config)# service-port <service-port-Start_index > <service-port-End_index > tag-action {add-double default translate translate-and-add transparent}
View	Config view
Description	This command is used to modify service virtual port vlan tag processing method quickly. After adding service port, you need to change VLAN tag processing method quickly, and other parameters don't change. You only use this command to modify service virtual port VLAN tag processing method.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter

rt_index >	when you need to set the service virtual port according to the index value.
<service-port-End_index >	The ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
Tag-action	For details, see Table 1 of this chapter.

【Example】

Example 1: Modify service virtual port 1 vlan processing method for default.

```
OLT(config)# service-port 1 tag-action default
      modify service-port tagAction success

OLT(config)#
```

Example 2: Modify service virtual port 1-3 vlan processing method for default.

```
OLT(config)# service-port 1 3 tag-action default
      modify service-port tagAction complete !!! fail:0

OLT(config)#
```

21.1.11.Modify Service Virtual Port Bound template

Command	OLT(config)# service-port <service-port-Start_index > <service-port-End_index > traffic-profile inbound { [index <Traffic profile index>][name <Traffic profile name>]} outbound {[index <Traffic profile index>][name <Traffic profile name>]}
View	Config view
Description	This command is used to modify service virtual port vlan bound template quickly. After creating service port, if you need to change service virtual port bound template quickly, and other parameters don't change. You only use this command to modify service virtual port bound template.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<service-port-End_index >	The ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.

inbound	In port direction
outbound	Out port direction
<Traffic profile index>	Traffic profile index
<Traffic profile name>	Traffic profile name

【Example】

Example 1: Modify traffic profile of service port 3 to be bound traffic template named test.

```
OLT(config)# service-port 3 traffic-profile inbound name test outbound name test
modify service-port traffic profile success.

OLT(config)#
```

Example 2: Modify traffic profile of service port 1-3 to be bound traffic template named test.

```
OLT(config)# service-port 1 3 traffic-profile inbound name test outbound name test
modify service-port traffic profile complete !!! fail:0.

OLT(config)#
```

21.2.Delete OLT Service Virtual Port

21.2.1.Delete Service Virtual Port

Command	OLT(config)# no service-port {<service-port-Start_index > {<service-port-End_index > <all>}}
View	Config view
Description	This command is used to delete service virtual ports.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<service-port-End_index >	The ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
< all>	All service virtual ports.

【Example】

Example 1: Delete service virtual port 2.

```
OLT(config)# no service-port 2
```

```
OLT(config)#
```

Example 2: Delete service virtual 2-3.

```
OLT(config)# no service-port 2 3
```

```
cancel service-port complete, failed_count 0
```

```
OLT(config)#
```

Example 3: Delete all service virtual ports

```
OLT(config)# no service-port all
```

```
It will take several minutes, are you sure
to release service-port(s)? (y|n)yes
```

```
OLT(config)#
```

21.2.2. Deleting Service Virtual Port According To PON Port

Command	OLT(config)#no service-port gpon <frameid/slotid> port<port-id> OLT(config)#no service-port gpon <frameid/slotid> port <port-id> ont <ont-id> gemport <gemport-id> { [user-vlan<user-vlan-id>] [ethertype<ipv4oe ipv6oe pppoe >] [user-8021p<priority> user-vlan <user-vlan-id>] }
View	Config view
Description	This command is used to delete service virtual port of corresponding PON port.
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<ont-id>	ONT ID. When need to specify ont service virtual port, range for 1-128
<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range is 1-30.
<user-vlan-id>	User side VLAN ID. Use this parameter when you need to distinguish users by user side VLAN. Range for 1-4094.

<priority>	User side vlan priority value. Use this parameter when you need to distinguish users by user side priority. Range for 0-7.
ethertype	User side service Ethernet type. Use this parameter when you need to distinguish users by user side business Encapsulation type. Range for: pppoe, ipv6oe, ipv4oe When user side packet is a PPPoE packet (that is, a packet with an Ethernet type of 0x8863 and 0x8864), "pppoe" is used. When user side packet is an IPv6 packet (that is, a packet with an Ethernet type of 0x86dd), "ipv6oe" is used. When user side message is a message other than the "pppoe" and "ipv6oe" messages (that is, the message whose Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.

【Example】

Example 1: Delete Service Virtual Port Corresponding to the PON3 Port

```
OLT(config)# no service-port gpon 0/0 port 3

OLT(config)#
```

Example 2: Delete Service Virtual Port Corresponding to the PON3 Port ont 1

```
OLT(config)# no service-port gpon 0/0 port 3 ont 1 gempport 1 user-vlan 100

OLT(config)#
```

21.2.3. Deleting Service Virtual Port According To VLAN

Command	OLT(config)#no service-port <start_vlan-id> <end_vlan-id> OLT(config)#no service-port <start_vlan-id> gpon <frameid/slotid> port <port-id>
View	Config view
Description	This command is used to delete single or many VLAN corresponding service virtual port.
<start_vlan-id>	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<end_vlan-id>	The Ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.

<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16

【Example】

Example 1: Delete vlan 100 corresponding service virtual port .

```
OLT(config)# no service-port vlan 100 gpon 0/0 port 3
OLT(config)#
```

Example 2: Delete vlan 100-101 corresponding service virtual port.

```
OLT(config)# no service-port vlan 100 101
OLT(config)#
```

21.2.4.Delete Service Virtual Port Bound template

Command	OLT(config)#no service-port <service-port-Start_index > <service-port-End_index > traffic-profile <inbound> <outbound>
View	Config view
Description	This command is used to delete service virtual port bound template.
<service-port-Start_index >	The starting index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<service-port-End_index >	The ending index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<inbound>	In port direction
<outbound>	Out port direction

【Example】

Example 1: Delete traffic template service virtual port 2 in bound direction.

```
OLT(config)# no service-port 2 traffic-profile inbound
cancel the service-port traffic profile success.
OLT(config)#
```

Example 2: Delete traffic template service virtual port 2-3 out bound direction.

```
OLT(config)# no service-port 2 3 traffic-profile outbound
```

```
candle service-port traffic profile complete!!! fail_num:0

OLT(config)#
```

21.2.5.Delete Service Virtual Port Description Information

Command	OLT(config)# no service-port desc <service-port-index>
View	Config view
Description	This command is used to delete service virtual port description information.
<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.

【Example】

Example 1: Delete service virtual port 3 description information

```
OLT(config)# no service-port desc 1

OLT(config)#
```

21.3.View OLT Service Service Port

21.3.1.View Single or All Service Virtual Ports

Command	OLT(config)# show service-port {<service-port-index > <all>}
View	Config view
Description	This command is used to view service virtual ports
<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
< all>	All service virtual ports

【Example】

Example 1: show service virtual port 1

```
OLT(config)# show service-port 1

-----
Index           : 1
Vlan Id         : 101
PortId          : 0/0/14
ONT ID          : 1
```



```

GEM port index      : 1
Flow type           : vlan
Flow param          : 101
Inbound id|name     : -/-
Outbound id|name    : -/-
Admin status        : enable
State               : up
Tag action          : transparent
Description         : -
Stat. performance   : disable
Create method       : manual
-----
Notes: v/e--vlan/ethertype, v/p--vlan/8021p
      Dvlan--double vlan
      pri-tag--priority-tagged,
      ppp--pppoe, ip4--ipv4oe, ip6--ipv6oe

OLT(config)#

```

Example 2: Show all service virtual ports

```

OLT(config)# show service-port all
-----
INDEX  VLAN  PORT      ONT  GEM    FLOW    FLOW    TAG
INNER INNER  RX  TX  STATE  METHOD
      ID   ID   ID   PORT  TYPE   PARA   ACTION
VLAN  PRI
-----
  1   101  0/0/14  1   1   vlan  101   transparent  -
- - -   up    manual
  2   100  0/0/3   1   1   vlan  100   transparent  -
- - -   down  manual
-----
Total service-port config entry : 2   ( up/down      : 1   /1   )
Total inbound ethtype/pri entry : 512 ( using/unused : 0   /512 )
Total outbound speedlimit entry : 128 ( using/unused : 0   /128 )

OLT(config)#

```

21.3.2.View Automatically Configured Service Virtual Port

Command	OLT(config)# show service-port autoconfig
View	Config view

Description	This command is used to view automatically configured service virtual ports
--------------------	---

【Example】

Example 1: Show automatically configured service virtual port.

```
OLT(config)# show service-port autoconfig
```

PORT SWITCH	SVLAN ID	GEM PORT	FLOW TYPE	FLOW PARA	TAG ACTION	INNER VLAN	INNER PRI	RX	TX
0/0/1	1	1	vlan	1	transparent	-	-	-	-
0/0/2	1	1	vlan	1	transparent	-	-	-	-
0/0/3	1	1	vlan	1	transparent	-	-	-	-
0/0/4	1	1	vlan	1	transparent	-	-	-	-
0/0/5	1	1	vlan	1	transparent	-	-	-	-
0/0/6	1	1	vlan	1	transparent	-	-	-	-
0/0/7	1	1	vlan	1	transparent	-	-	-	-
0/0/8	1	1	vlan	1	transparent	-	-	-	-
0/0/9	1	1	vlan	1	transparent	-	-	-	-
0/0/10	1	1	vlan	1	transparent	-	-	-	-
0/0/11	1	1	vlan	1	transparent	-	-	-	-
0/0/12	1	1	vlan	1	transparent	-	-	-	-
0/0/13	1	1	vlan	1	transparent	-	-	-	-
0/0/14	1	1	vlan	1	transparent	-	-	-	-
0/0/15	1	1	vlan	1	transparent	-	-	-	-
0/0/16	1	1	vlan	1	transparent	-	-	-	-

OLT(config)#

21.3.3.View Service Virtual Port According to Service VLAN

Command	OLT(config)# show service-port vlan <start_vlan-id> <end_vlan-id> OLT(config)# show service-port vlan <start_vlan-id> gpon <frameid/slotid> port <port-id>
View	Config view
Decription	This command is used to view single or all service vlan corresponding to service virtual vlan
<start_vlan-id>	The starting vlan ID
<end_vlan-id>	The ending vlan ID
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16

【Example】

Example 1: Show vlan 100-101 corresponding to service virtual port.

```
OLT(config)# show service-port vlan 1 101
```

INDEX	VLAN	PORT	ONT	GEM	FLOW	FLOW	TAG	
INNER	INNER	RX	TX	STATE	METHOD			
VLAN	PRI	ID	ID	ID	PORT	TYPE	PARA	ACTION
1	1	0/0/2	2	1	vlan	1	transparent	-
-	-	down	auto					
2	1	0/0/3	3	1	vlan	1	transparent	-
-	-	down	auto					
4	1	0/0/14	1	1	vlan	1	transparent	-
-	-	up	auto					
5	1	0/0/2	3	1	vlan	1	transparent	-
-	-	down	auto					
10	1	0/0/13	1	1	vlan	1	transparent	-
-	-	down	auto					
11	1	0/0/2	4	1	vlan	1	transparent	-
-	-	up	auto					
8	55	0/0/14	1	3	vlan	55	transparent	-
-	3	up	manual					
6	100	0/0/3	1	1	etype	ipv4oe	default	-

```

- - - down manual
 7 100 0/0/14 1 1 v/p 100/1 transparent -
- - - up manual
 0 101 0/0/2 1 1 vlan 101 transparent -
- - - down manual
 3 101 0/0/2 2 1 vlan 101 transparent -
- - - down manual
 9 101 0/0/2 4 1 vlan 101 transparent -
- - - up manual
-----
Total service-port config entry : 12 ( up/down : 5 /7 )
Total inbound ethtype/pri entry : 512 ( using/unused : 2 /510 )
Total outbound speedlimit entry : 128 ( using/unused : 1 /127 )

OLT(config)#

```

Example 2: View vlan 100 corresponding to service virtual port in pon3 port.

```

OLT(config)# show service-port vlan 100
-----
INDEX VLAN PORT ONT GEM FLOW FLOW TAG
INNER INNER RX TX STATE METHOD
ID ID ID PORT TYPE PARA ACTION
VLAN PRI
-----
 6 100 0/0/3 1 1 etype ipv4oe default -
- - - down manual
 7 100 0/0/14 1 1 v/p 100/1 transparent -
- - - up manual
-----
Total service-port config entry : 2 ( up/down : 1 /1 )
Total inbound ethtype/pri entry : 512 ( using/unused : 2 /510 )
Total outbound speedlimit entry : 128 ( using/unused : 1 /127 )

OLT(config)#

```

21.3.4.View Service Virtual Port According to User Side Packet Type

Command	OLT(config)# show service-port ethertype {ipv4oe ipv6oe pppoe }
View	Config view
Description	This command is used to view service virtual port according to user side packet type.
ethertype	User side service Ethernet type. Use this parameter when you need

	<p>to distinguish users by user side business Encapsulation type.</p> <p>Range for: pppoe, ipv6oe, ipv4oe</p> <p>When user side packet is a PPPoE packet (that is, a packet with an Ethernet type of 0x8863 and 0x8864), "pppoe" is used.</p> <p>When user side packet is an IPv6 packet (that is, a packet with an Ethernet type of 0x86dd), "ipv6oe" is used.</p> <p>When user side message is a message other than the "pppoe" and "ipv6oe" messages (that is, the message whose Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.</p>
--	--

【Example】

Example 1: Show service virtual port that user side packet type is ipv4oe

```

OLT(config)# show service-port ethertype ipv4oe
-----
  INDEX VLAN PORT      ONT GEM      FLOW      FLOW      TAG
INNER INNER  RX  TX  STATE  METHOD
      ID   ID      ID  PORT  TYPE    PARA    ACTION
VLAN  PRI
-----
   6   100  0/0/3  1   1    etype  ipv4oe    default    -
- - - - - down  manual
-----
Total service-port config entry : 1   ( up/down      : 0   /1   )
Total inbound ethtype/pri entry : 512 ( using/unused : 2   /510 )
Total outbound speedlimit entry : 128 ( using/unused : 1   /127 )

OLT(config)#

```

21.3.5.View Service Virtual Port According to User VLAN

Command	OLT(config)# show service-port user-vlan <user-vlan-id>
View	Config view
Description	This command is used to view service virtual port according to user vlan
<user-vlan-id>	User VLAN ID, range for 1-4094

【Example】

Example 1: View service virtual port corresponding to user vlan 101

```

OLT(config)# show service-port user-vlan 100
-----

```

INDEX	VLAN	PORT	ONT	GEM	FLOW	FLOW	TAG
INNER	INNER	RX	TX	STATE	METHOD		
	ID	ID	ID	PORT	TYPE	PARA	ACTION
VLAN	PRI						
7	100	0/0/14	1	1	v/p	100/1	transparent
-	-	-	up	manaul			-

Total service-port config entry : 1 (up/down : 1 /0)							
Total inbound ethtype/pri entry : 512 (using/unused : 2 /510)							
Total outbound speedlimit entry : 128 (using/unused : 1 /127)							
OLT(config)#							

21.3.6.View Service Virtual Port According to User Vlan Priority

Command	OLT(config)# show service-port user-8021p <priority> user-vlan <user-vlan-id>
View	Config view
Description	This command is used to view service virtual port according to user vlan priority.
<user-vlan-id>	User side VLAN ID. Use this parameter when you need to distinguish users by user side VLAN. Range for 1-4094.
<priority>	User side vlan priority value. Use this parameter when you need to distinguish users by user side priority. Range for 0-7.

【Example】

Example 1: Show service virtual port that user vlan is 100 and priority is 1

OLT(config)# show service-port user-8021p 1 user-vlan 100							

INDEX	VLAN	PORT	ONT	GEM	FLOW	FLOW	TAG
INNER	INNER	RX	TX	STATE	METHOD		
	ID	ID	ID	PORT	TYPE	PARA	ACTION
VLAN	PRI						
7	100	0/0/14	1	1	v/p	100/1	transparent
-	-	-	up	manaul			-

Total service-port config entry : 1 (up/down : 1 /0)							
Total inbound ethtype/pri entry : 512 (using/unused : 2 /510)							
Total outbound speedlimit entry : 128 (using/unused : 1 /127)							

OLT(config)#

21.3.7.View Service Virtual Ports According to PON Port

Command	<pre>OLT(config)#show service-port gpon <frameid/slotid> port<Start_port-id><End_port-id> OLT(config)#show service-port gpon <frameid/slotid> port <port-id>[[ethertype<ipv4oe ipv6oe pppoe >]][[user-8021p<priori ty> user-vlan <user-vlan-id>]][[user-vlan <user-vlan-id>]] OLT(config)#show service-port gpon <frameid/slotid> port <port-id> ont <ont-id> gemport <gemport-id> { [user-vlan<user-vlan-id>]][[ethertype<ipv4oe ipv6oe pppoe >] [user-8021p<priority> user-vlan <user-vlan-id>] }</pre>
View	Config view
Description	This command is used to view single or many ONU in pon port corresponding to service virtual port.
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16
<End_port-id>	The ending port ID, range for 1-16
<ont-id>	ONT ID. When need to specify ont service virtual port, range for 1-128
<gemport-id>	Gemport identifies the service virtual channel between OLT and ONT, that is, the channel that carries the service flow. GEM Port ID refers to the uniform numbering in each PON port. The value range is 1-30.
<user-vlan-id>	User side VLAN ID. Use this parameter when you need to distinguish users by user side VLAN. Range for 1-4094.
<priority>	User side vlan priority value. Use this parameter when you need to distinguish users by user side priority. Range for 0-7.
ethertype	<p>User side service Ethernet type. Use this parameter when you need to distinguish users by user side business Encapsulation type.</p> <p>Range for: pppoe, ipv6oe, ipv4oe</p> <p>When user side packet is a PPPoE packet (that is, a packet with an Ethernet type of 0x8863 and 0x8864), "pppoe" is used.</p> <p>When user side packet is an IPv6 packet (that is, a packet with an Ethernet type of 0x86dd), "ipv6oe" is used.</p>

	When user side message is a message other than the "pppoe" and "ipv6oe" messages (that is, the message whose Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.
--	---

【Example】

Example 1: Show service virtual port corresponding to PON1-2

```

OLT(config)# show service-port gpon 0/0 port 1 2
-----
  INDEX VLAN PORT      ONT GEM      FLOW      FLOW      TAG
INNER INNER RX  TX STATE METHOD
      ID   ID      ID  PORT  TYPE     PARA     ACTION
VLAN  PRI
-----
  0    101 0/0/2  1   1   vlan  101      transparent  -
- - -   down manual
  1    1   0/0/2  2   1   vlan   1      transparent  -
- - -   down auto
  3    101 0/0/2  2   1   vlan  101      transparent  -
- - -   down manual
  5    1   0/0/2  3   1   vlan   1      transparent  -
- - -   down auto
  9    101 0/0/2  4   1   vlan  101      transparent  -
- - -   up   manual
  11   1   0/0/2  4   1   vlan   1      transparent  -
- - -   up   auto
-----
Total service-port config entry : 6   ( up/down      : 2   /4   )
Total inbound ethtype/pri entry : 512 ( using/unused : 2   /510 )
Total outbound speedlimit entry : 128 ( using/unused : 1   /127 )

OLT(config)#

```

Example 2: Show service virtual port corresponding to PON2

```

OLT(config)# show service-port gpon 0/0 port 2
-----
  INDEX VLAN PORT      ONT GEM      FLOW      FLOW      TAG
INNER INNER RX  TX STATE METHOD
      ID   ID      ID  PORT  TYPE     PARA     ACTION
VLAN  PRI
-----
  0    101 0/0/2  1   1   vlan  101      transparent  -
- - -   down manual
  1    1   0/0/2  2   1   vlan   1      transparent  -
- - -   down auto

```



```

3      101  0/0/2  2  1      vlan  101      transparent  -
- - -  down  manual
5      1    0/0/2  3  1      vlan  1      transparent  -
- - -  down  auto
9      101  0/0/2  4  1      vlan  101     transparent  -
- - -  up    manual
11     1    0/0/2  4  1      vlan  1      transparent  -
- - -  up    auto
-----
Total service-port config entry : 6      ( up/down      : 2 /4      )
Total inbound ethtype/pri entry : 512   ( using/unused : 2 /510   )
Total outbound speedlimit entry : 128    ( using/unused : 1 /127   )

OLT(config)#

```

21.3.8. View Service virtual Port Performance Statistics Switch

Command	OLT(config)# show service-port statistics performance switch {<service-port-index> <all> [gpon<frameid/slotid> port<port-id>]}
View	Config view
Description	This Command is used to view service virtual port performance statistics switch
<service-port-index>	The index value of service virtual port. Use this parameter when you need to set the service virtual port according to the index value.
<all>	All service virtual ports
<frameid/slotid>	the default value is 0/0
<port-id>	Port ID, range for 1-16

【Example】

Example 1: Show service virtual port 1 performance statistics switch state

```

OLT(config)# show service-port statistics performance switch 1
-----
INDEX VLAN PORT   ONT GEM   FLOW   FLOW      SWITCH
   ID  ID    ID PORT  TYPE   PARA
-----
   1   1 0/0/2   2   1  vlan   1      disable
-----
Total : 1

OLT(config)#

```

Example 2: Show all service virtual ports performance statistics switch state

```

OLT(config)# show service-port statistics performance switch all
-----
INDEX VLAN PORT   ONT GEM   FLOW   FLOW   SWITCH
  ID   ID     ID  PORT  TYPE   PARA
-----
  0  101 0/0/2   1   1   vlan   101   disable
  1   1 0/0/2   2   1   vlan    1   disable
  2   1 0/0/3   3   1   vlan    1   disable
  3  101 0/0/2   2   1   vlan   101   disable
  4   1 0/0/14  1   1   vlan    1   disable
  5   1 0/0/2   3   1   vlan    1   disable
  6  100 0/0/3   1   1   etype  ipv4oe  disable
  7  100  14    1   1   v/p    100/1  disable
  8   55 0/0/14  1   3   vlan    55   disable
  9  101 0/0/2   4   1   vlan   101   disable
 10   1 0/0/13  1   1   vlan    1   disable
 11   1 0/0/2   4   1   vlan    1   disable
-----
Total : 12

OLT(config)#

```

Example 3: Show all service virtual port 1performance statistics switch state in pon3 port

```

OLT(config)# show service-port statistics performance switch gpon 0/0 port 3
-----
INDEX VLAN PORT   ONT GEM   FLOW   FLOW   SWITCH
  ID   ID     ID  PORT  TYPE   PARA
-----
  2   1 0/0/3   3   1   vlan    1   disable
  6  100 0/0/3   1   1   etype  ipv4oe  disable
-----
Total : 2

OLT(config)#

```

22. OLT Log Management and Query

22.1. Add Syslog Record Server

Command	OLT(config)# loghost add <ip-address> <hostname>
----------------	---

View	Config view
Description	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
Add syslog host succeeded!
OLT(config)#
```

22.2.Delete Syslog Record Server

Command	OLT(config)# loghost delete ip <ip-address> name <hostname>
View	Config view
Description	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

Command	OLT(config)# loghost operlog <switch>
----------------	--

View	Config view
Description	This command is used to set the switch of whether the olt log will transmit to log server.
<switch>	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

Command	OLT(config)# loghost alarmlog <switch>
View	Config view
Description	This command is used to set the switch of whether the alarmlog of olt will transmit to log server.
<switch>	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

Command	OLT(config)# loghost activate ip <ip-address> name<hostname>
View	Config view
Description	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.
<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: 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

Command	OLT(config)# loghost deactivate ip <ip-address> name <hostname>
View	Config view
Description	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.
<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: 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

Command	OLT(config)# show loghost list
View	Config view
Description	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(FTP Method)

Command	OLT(config)# backup log ftp <server-ip-address> <user-name> <user-password> <filename>
View	enable view or config view
Description	This command is used to save the log to ftp server by manually.
<server-ip-address>	IP address of ftp server
<user-name>	User name of ftp server
<user-password>	Password of ftp server
<filename>	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.Backup OLT Log(TFTP Method)

Command	OLT(config)# backup log tftp <server-ip-address> <filename>
View	enable view or config view
Description	This command is used to save the log to tftp server by manually.
<server-ip-address>	IP address of tftp server
<filename>	The name of the backup log

【Example】

Example 1 : Save the log to tftp server 192.168.1.223,user name is admin,password is

admin,file name is log.

```
OLT(config)# backup log tftp 192.168.1.223 logback
Start backup log files
The backup is successful
```

22.10. Erase OLT Log

Command	OLT(config)# erase log
View	Config view
Description	This command is used to delete the log of olt

【Example】

Example 1: Erase the log of olt.

```
OLT(config)#erase log

OLT(config)#
```

22.11.Show OLT Log

Command	OLT(config)# show log
View	enable view,config view
Description	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

Command	OLT(config)# alarm active clear <alarm-raising-number>
View	Config view
Description	This command is used to clear the specified active alarm entry
<alarm-raising-number>	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: alarm output detail on show alarm active all

【 Example 】

Example 1: Clear active alarm 2.

OLT(config)#alarm active clear 2
OLT(config)#

23.2.Clear Active Alarm by Specified Alarmlevel

Command	OLT(config)# alarm active clear alarmlevel <alarmlevel id>
View	Config view
Description	This command is used to clear active alarm by specified alarmlevel
<alarmlevel id>	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

Command	OLT(config)# alarm active clear alarmparameter board <F/S>
View	Config view
Description	This command is used to clear active alarm by specified board.
<F/S>	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

Command	OLT(config)# alarm active clear alarmparameter ge <F/S/P>
View	Config view
Description	This command is used to clear active alarm by specified GE port
<F/S/P>	Frame/slot/ge port id,range for 0/0/1–0/0/4

【 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

Command	OLT(config)# alarm active clear alarmparameter pon <F/S/P>
View	Config view
Description	This command is used to clear active alarm by specified pon port
<F/S/P>	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

Command	OLT(config)# alarm active clear alarmparameter xge <F/S/P>
View	Config view
Description	This command is used to clear active alarm by specified XGE port

<F/S/P>	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

Command	OLT(config)# alarm alarmlevel <alarm-ID> <alarmlevel id>
View	Config view
Description	This command is used to set alarmlevel for specified alarm
<alarm-ID>	alarm-raising-number.range for 1-4294967294
< alarmlevel id >	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

Command	OLT(config)# alarm jitter-interval <interval>
View	Config view
Description	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

Command	OLT(config)# alarm jitter-proof disable
View	Config view
Description	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

Command	OLT(config)# alarm output alarmid <alarm-ID> <switch>
View	Config view
Description	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.
<alarm-ID>	alarm ID, the value range is 1-4294967294.
<switch>	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

Command	OLT(config)# alarm output alarmlevel <alarmlevel> <switch>
View	Config view
Description	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.
<alarm-level>	1- Critical 2- Major 3- Minor 4- Warning
<switch>	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

Command	OLT(config)# alarm output all <switch>
View	Config view
Description	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.
<switch>	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

Command	OLT(config)# alarm output detail <switch>
View	Config view
Description	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.
<switch>	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

Command	OLT(config)# show alarm active <alarm-id>
View	Config view
Description	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.

```
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)#
```

23.15.Show Active Alarm Logs by Specified Level

Command	OLT(config)# show alarm active alarmlevel < alarmlevel id>
View	Config view
Description	This command is used to view active alarm logs of the specified level.
< alarmlevel id >	1- Critical 2- major 3- minor 4- warning

【 Example 】**Example 1:** View active alarm logs of level 2.

```
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)#

```

23.16. Show Active Alarm Logs by Specified Board

Command	OLT(config)# show alarm active alarmparameter board <F/S>
View	Config view
Description	This command is used to view active alarm logs of the specified board.
<F/S>	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

Command	OLT(config)# show alarm active alarmparameter ge <F/S/P>
View	Config view
Description	This command is use to view active alarm logs of the specified GE port.
<F/S/P>	GE port number,the value range is 0/0/1–0/0/4.

【Example】

Example 1: View active alarm logs of ge4 port.

```

OLT(config)#show alarm active alarmparameter ge 0/0/4

```

```

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

Command	OLT(config)# show alarm active alarmparameter pon<F/S/P>
View	Config view
Description	This command is used to view active alarm logs 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 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

Command	OLT(config)# show alarm active alarmparameter xge<F/S/P>
View	Config view
Description	This command is used to view active alarm logs 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 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

Command	OLT(config)# show alarm active all
View	Config view
Description	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

Command	OLT(config)# show alarm history alarmid <alarm-id>
View	Config view
Description	This command is used to view the specified alarm history records
<alarm-id>	Alarm ID,the value range is 1-4294967294.

【 Example 】

Example 1: View alarm history records of alarm-ID 204.

<pre> 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: </pre>
--

23.22.Show Alarm History Record by Specified Level

Command	OLT(config)# show alarm history alarmlevel <alarmlevel id>
View	Config view
Description	This command is used to view alarm history records of the specified level.
<alarmlevel id>	1- Critical 2- major 3- minor 4- warning

【 Example 】

Example 1: View alarm history records of level 4.

<pre> OLT(config)#show alarm history alarmlevel 4 ALARM 38 Cleared 401 2000-01-02 07:07:06 ALARM NAME:uni link up </pre>
--

```

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

Command	OLT(config)# show alarm history alarmparameter board <F/S>
View	Config view
Description	This command is used to view alarm history records of the specified board.
<F/S>	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

Command	OLT(config)# show alarm history alarmparameter ge <F/S/P>
View	Config view
Description	This command is used to view alarm history records of the specified

	GE port
<F/S/P>	GE port number,the value range is 0/0/1–0/0/4.

【Example】

Example 1: View alarm history records of ge4 port.

```
OLT(config)#show alarm history alarmparameter ge 0/0/4
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME:sni port link down
INSTANCE:GE FrameID:0,SlotID:0,PortID:4
DESCRIPTION:
ALARM 17 Cleared 203 2000-01-02 02:48:05
ALARM NAME:sni port link up
INSTANCE:GE FrameID:0,SlotID:0,PortID:4
DESCRIPTION:
```

23.25.Show Alarm History Record by Specified PON Port

Command	OLT(config)# show alarm history alarmparameter pon <F/S/P>
View	Config view
Description	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

Command	OLT(config)# show alarm history alarmparameter xge <F/S/P>
View	Config view
Description	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

Command	OLT(config)# show alarm history all
View	Config view
Description	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

Command	OLT(config)# show alarm jitter
View	Config view
Description	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

Command	OLT(config)# show alarm list
View	Config view
Description	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

Command	OLT(config)# event eventlevel <Event-ID> <event-level>
View	Config view
Description	This command is used to configure the specified event level.
<Event-ID>	Event ID, only on behalf of one event alarm
<event-level>	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

Command	OLT(config)# event output all <switch>
----------------	---

View	Config view
Description	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
<switch>	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

Command	OLT(config)# event output detail <switch>
View	Config view
Description	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.
<switch>	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

Command	OLT(config)# event output eventid <eventid> <switch>
View	Config view
Description	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.
<eventid>	Event ID, the value range is 1-4294967294.
<switch>	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

Command	OLT(config)# event output eventlevel <eventlevel> <switch>
View	Config view
Description	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.
<eventlevel>	1- Critical 2- Major 3- Minor 4- Warning
<switch>	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

Command	OLT(config)# show event history all
View	Config view
Description	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

Command	OLT(config)# show event history eventid <eventid>
View	Config view
Description	This command is used to view history record of the specified event.
<eventid>	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

Command	OLT(config)# show event history eventlevel <eventlevel>
View	Config view
Description	This command is used to view history record of the specified level event.
<eventlevel>	1- Critical 2- Major 3- Minor 4- Warning

【 Example 】

Example 1: View history records of event level 4.

```
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

```

24.9.Show Specified Level and Specified Event ID History

Record

Command	OLT(config)# show event history eventlevel < eventlevel > eventid < event-id >
View	Config view
Description	This command is used to view the history of the specified specified level and the specified event ID.
<eventlevel>	1- Critical 2- Major 3- Minor 4- Warning
< event-id >	Event ID, in the range of 1-4294967294.

【 Example 】

Example 1: The query event level is 4 (alarm) and the event ID is 13002.

```

OLT(config)# show event history eventlevel 4 eventid 13002
EVENT 14 Warning 13002 2000-01-03 05:27:27
EVENT NAME : ONT is offline
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 4
DESCRIPTION : E067B312118A00012770

EVENT 13 Warning 13002 2000-01-02 07:05:56
EVENT NAME : ONT is offline
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5
DESCRIPTION : E067B300000100012770

```

24.10.Show Specified Board/Port and Specified Level Event

History Record

Command	OLT(config)# show event history eventlevel < eventlevel > eventparameter < board id/port id >
----------------	--

View	Config view
Description	This command is used to view the history of the specified specified level and the specified board port event ID.
<eventlevel>	1- Critical 2- Major 3- Minor 4- Warning
< board id/port id >	Specify the board number or the uplink and PON port number Board value 0/0 PON port value 0/0/1-0/0/16 The value of the uplink GE port is 0/0/1-0/0/4. The value of the uplink XGE port is 0/0/1-0/0/2.

【 Example 】

Example 1: Query the event level to 4 (alarm) and log in to the history of GE port 0/0/1.

```
OLT(config)# show event history eventlevel 4 eventparameter ge 0/0/1
EVENT 14   Warning   13002   2000-01-03 05:27:27
EVENT NAME : ONT is offline
INSTANCE   : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 4
DESCRIPTION : E067B312118A00012770

EVENT 13   Warning   13002   2000-01-02 07:05:56
EVENT NAME : ONT is offline
INSTANCE   : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5
DESCRIPTION : E067B300000100012770
```

24.11.Show Specified Board/Specified Level/Specified Event ID History Record

Command	OLT(config)# show event history eventlevel < eventlevel > eventid <event-id> eventparameter <board id port id >
View	Config view
Description	This command is used to view the history of the specified level, the specified board, and the specified event ID.
<eventlevel>	1- Critical 2- Major 3- Minor 4- Warning

<event-id>	Event ID, in the range of 1-4294967294.
< board id/port id >	Specify the board number or the uplink and PON port number Board value 0/0 PON port value 0/0/1-0/0/16 The value of the uplink GE port is 0/0/1-0/0/4. The value of the uplink XGE port is 0/0/1-0/0/2.

【Example】

Example 1: The query event level is 4 (alarm), and the event ID is 13002 and the calendar of the uplink GE port port 0/0/1 History record.

```
OLT(config)# show event history eventlevel 4 eventid 13002 eventparameter ge 0/0/1
EVENT 14   Warning   13002   2000-01-03 05:27:27
EVENT NAME : ONT is offline
INSTANCE   : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 4
DESCRIPTION : E067B312118A00012770

EVENT 13   Warning   13002   2000-01-02 07:05:56
EVENT NAME : ONT is offline
INSTANCE   : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5
DESCRIPTION : E067B300000100012770
```

24.12.Show Event History Record by Specified Board

Command	OLT(config)# show event history eventparameter board <F/S>
View	Config view
Description	This command is used to view the history records of the specified board
<F/S>	Board number,the value is 0/0.

【Example】

Example 1: View the event history records of the specified board 0/0.

```
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
DESCRIPTION:E067B300000100012770
```

24.13. Show Event History Record by Specified GE Port

Command	OLT(config)# show event history eventparameter ge <F/S/P>
View	Config view
Description	This command is used to view the event history record of the specified GE port.
<F/S/P>	GE port number,the value range is 0/0/1–0/0/4.

【Example】

Example 1: View the event history record of the specified ge4 port.

```
OLT(config)#show event history eventparameter ge 0/0/4
total number:0
OLT(config)#
```

24.14. Show Event History Record by Specified PON Port

Command	OLT(config)# show event history eventparameter pon <F/S/P>
View	Config view
Description	This command is used to view the event 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 the event history records of the pon3 port.

```
OLT(config)# show event history eventparameter pon 0/0/3
EVENT 7   Warning   13002   2000-01-02 02:22:51
EVENT NAME : ONT is offline
INSTANCE  : FrameID: 0, SlotID: 0, PortID: 3, ONTID: 2
DESCRIPTION : E067B301010100012770

EVENT 6   Warning   13001   2000-01-02 02:22:40
EVENT NAME : ONT is online
INSTANCE  : FrameID: 0, SlotID: 0, PortID: 3, ONTID: 2
DESCRIPTION : E067B301010100012708
```

24.15. Show Event History Record by Specified XGE Port

Command	OLT(config)# show event history eventparameter xge<F/S/P>
View	Config view

Description	This command is used to view the event history records of the specified XGE port
<F/S/P>	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 0/0/1
total number : 0

OLT(config)#
```

24.16.Show Event Basic Information

Command	OLT(config)# show event list
View	Config view
Description	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
113001       Yes   Warning   Warning   ONT online
113002       Yes   Warning   Warning   ONT offline
1100001      Yes   Warning   Warning   SN collision
1100002      Yes   Warning   Warning   Ranging failed
1100003      Yes   Warning   Warning   Active failed
1100004      Yes   Warning   Warning   ONT pwd auth failed
1100005      Yes   Warning   Warning   Assign omci port for the ONT failed
1100008      Yes   Warning   Warning   Pon Drv connection Device fail
-----
OLT(config)#
```

25.Device Diagnostic Management

25.1.Ping Diagnostic Test

Command	OLT(config)# ping <DESTINATION> < ip>
View	Any view

Description	This command is used for testing network accessibility between device and target host.
<DESTINATION>	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.
<ip>	Destination IP address or host name, same as <DESTINATION> .

【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

Command	OLT(config)# traceroute <DESTINATION >
View	Enable view or config view
Description	Through traceroute, you can know about data packet transmission path from this host to the other end host
<DESTINATION >	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.

【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"> Drop the frame if its VLAN id is the same as the native VLAN id. Drop the frame if its VLAN id is different from the native VLAN id 	Remove the native VLAN tag and send the frame
Trunk	Tag the frame with native VLAN tag.	<ul style="list-style-type: none"> Receive the frame if its VLAN is carried on the port Drop the frame if its VLAN is not carried on the port. 	<ul style="list-style-type: none"> Send the frame and removing the tag if the frame is the same as native VLAN id. Send the frame without removing the tag if its VLAN is carried on the port but is different from the native VLAN.
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

Thanks for choosing our company products!