GPON _ OLT Series Product User Manual

FD1604S/FD1608S/FD1616S

---Command Line Operation Manual

Version : V3.0

Content

© Statement

If the products involved in this manual are improved or technically changed, or the content of this manual is updated, our company may not be able to notify all users in time. You can obtain relevant information by contacting the product seller or relevant personnel of our company.

Documentation

This manual suitable for the command line operation and management of C-DATA FD1604S,FD1608S,FD1616S GPON OLT . It is the information that users should read before they want to operate the GPON OLT equipment through the command line or search for commands .

The new GPON OLT equipment user manual also includes the following sub-volumes:

"FD1604S,FD1608S,FD1616S OLT Equipment User Manual - Equipment Installation Guide "

"FD1604S,FD1608S,FD1616S OLT Device User Manual - Quick Start Guide "

"FD1604S,FD1608S,FD1616S OLT Equipment User Manual - EMS Network Management Configuration Guide "

1.Read instructions

Document Scope

Read object	Product	Product software version	
C-DATA Insiders FTTX operation and maintenance engineer Customer technical engineer	C-DATA GPON OLT (FD1604S,FD1608S,FD1616S)	V1.0.X	
writing department	C-DATA Product Management Center Technical Support Department	**document version**	V1.2 _

revision history

date	revision	describe	author
2018-07-23	V1.1	GPON OLT (FD1604S,FD1608S,FD1616S) Command Line Operation Manual First Edition	Technical Support
2019-12-5	V1.2	(FD1604S,FD1608S,FD1616S) Command Line Manual Second Edition, update, add, delete some command lines	Technical Support
2022-03-24	V.1.3	(FD1604S,FD1608S,FD1616S) Command Line Manual 3rd Edition, update, add, delete some command lines	Software Development

command line conventions

Format	Significance
Bold	Command keywords (the part that remains unchanged in the command and must be typed in) are represented in bold font
Italic	Command-line arguments (the part of the command that must be replaced by an actual value) are in italics
[]	Parts enclosed in [] are optional when used
(x|y|...)	means to choose one of two or more options
[x|y|...]	Indicates one or no choice from two or more

	options
<x-y>	means to choose one of the numbers from x to y
$	Indicates that the next line is the comment content

keyboard operating conventions

Format	Significance
characters with angle brackets	Indicates the key name. For example, <Enter>, <Tab>, <Backspace>, <a>, <?>, etc. respectively indicate carriage return, tab, backspace, lowercase letter a, ?
<Key 1+Key 2>	It means pressing several keys on the keyboard at the same time. For example, <Ctrl+Alt+A> means pressing the three keys "Ctrl", "Alt" and "A" at the same time
<Key 1,Key 2>	It means press the first key first, release it, and then press the second key. For example, <Alt, F> means press the <Alt> key first, release it and then press the <F> key

Notation convention

This book also uses various striking signs to indicate the places that should be paid special attention during the operation. The meanings of these signs are as follows:

Caution, Attention: Remind the matters that should be paid attention to in the operation. Improper operation may cause

lost data or damaged equipment.

WARNING: Special attention should be paid to the notes after this sign, and improper operation may cause personal injury.

Instructions, hints, tips, thinking: Make necessary additions and explanations to the description of the operation content.

Noun convention

OLT : Indicates the FD1604S/FD1608S/FD1616S system, including the uplink port connected to the switch and other uplink devices, and the main switch processing module.

PON : Indicates the PON protocol processing module and the PON port connected to the ONT .

Precautions

- command lines described in the documentation are all case- sensitive on the OLT.
- If you encounter a command that cannot be entered or prompts an error, you can use the question mark **"?"** to see what the format of the following command is.
- Incomplete commands can be completed by pressing the **"Tab"** key.
- FD1604S/FD1608S/FD1616S are box OLTs with only one board, so the command to enter PON board mode is interface gpon 0/0

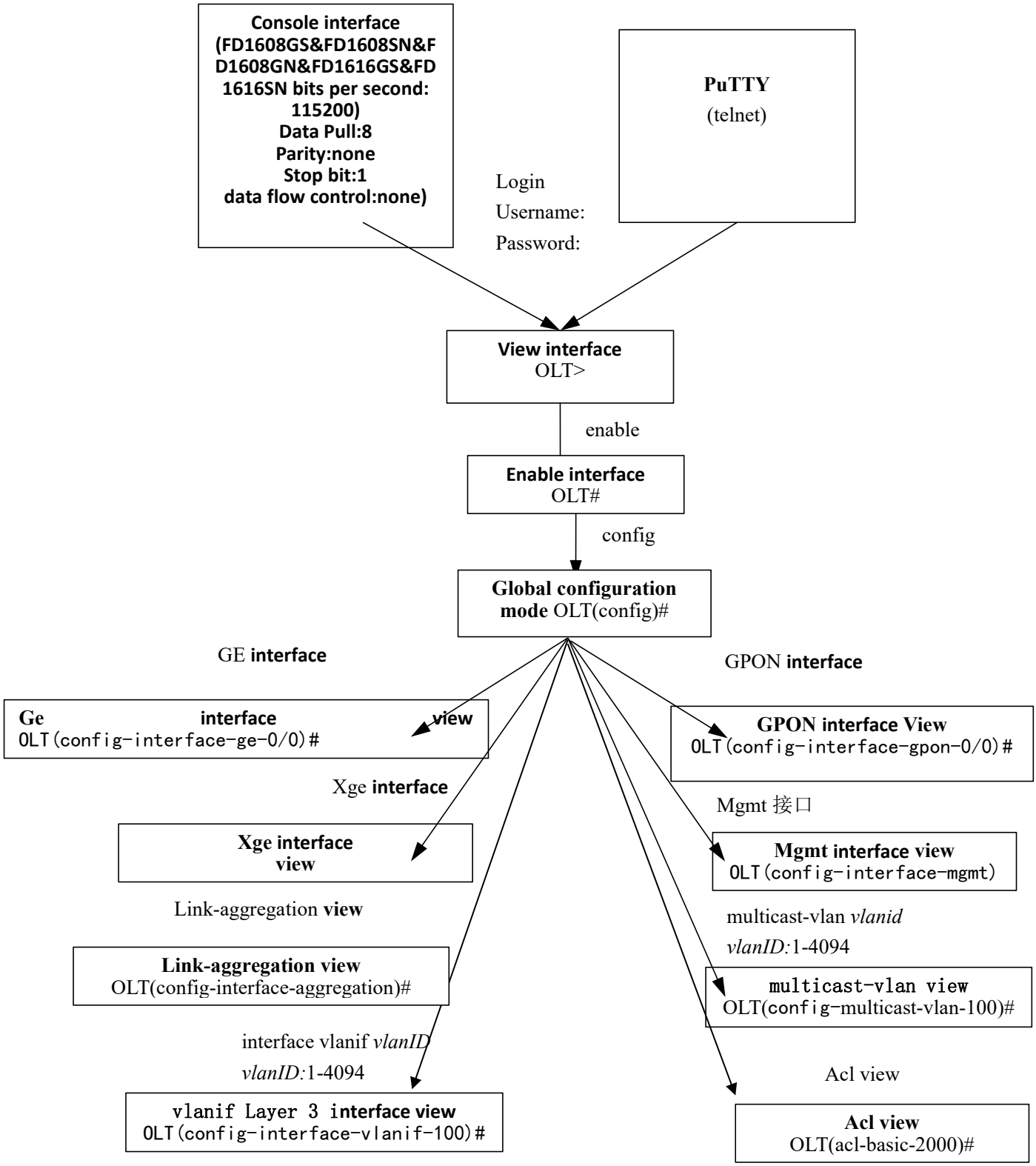
2.Command Line Interface View

View and view switching

Note: This command line environment is divided into multiple views including:

- **view view** : hereinafter referred to as view view or user mode, enter the password after power on,
  Only the simplest commands can be executed in this mode. The view looks like: OLT >
- **enable view** : hereinafter referred to as enable view or privileged mode, enter enable from view mode
  Command to enter, this mode has higher permissions than view . The view looks like: OLT#
- **config view :** hereinafter referred to as config view or global configuration mode, from enable
  Mode input config to enter, the view looks like: OLT (config)#
- **ge interface view :** hereinafter referred to as ge / gigabit interface view / mode, you can enter interface ge 0/0 from the config view to enter: the view is such as: OLT(config -interface-ge -0/0)#
- **xge interface view :** hereinafter referred to as xge / 10 Gigabit interface view / mode, you can enter interface xge 0/0 from the config view to enter: the view is such as: OLT(config -interface-xge -0/0)#
- **gpon interface view :** hereinafter referred to as gpon interface view / mode, you can enter interface gpon 0/0 from the config view to enter: the view is such as: OLT(config- interface-gpon -0/0)#
- **vlanif Layer 3 interface view :** You can enter interface vlanif vlanID from the config view to enter: the view is such as: OLT(config -interface-vlanif- 1) #
- **Management interface MGMT view:** You can enter interface mgmt from the config view to enter: the view is such as: OLT(config - interface-mgmt)#
- **multicast-vlan view :** You can enter multicast-vlan vlanid from the config view to enter:
- The view is such as: OLT(config -multicast-vlan-100)#
- **link-aggregation view: you can enter interface** link-aggregation from the config view to enter: the view is such as: OLT(config-interface-aggregation)#

2.1. Command line view overview



2.1.1.Enter Enable view

Command syntax	OLT> **enable**
Function Description	Enter the enable view from the view view .

【Configuration case】

Case: Enter the enable view from the view view:

```
OLT> enable
OLT#
```

2.1.2.Enter the Config view

Command syntax	**Command syntax**
Function Description	**Enter the config view from the enable view**

2.1.3.Enter the Interface view

Command syntax	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>**
Applicable view	config view
Function Description	Enter the gpon/ge/link-aggregation/mgmt/vlanif/xge view from the config view .
<VLAN ID>	VLAN ID value, the value range can be 1-4094
<FrameID/SlotID>	Chassis ID/Slot ID, the fixed value is 0/0

【Configuration case】

Case 1: Enter the vlanif 100 view from the config view:

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

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

Case 2: Enter the ge interface view from the config view:

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

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

Case 3: Enter the epon interface view from the config view:

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

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

2.1.4.Enter ACL view

Command syntax	OLT(config)# **acl <acl ID>**
Applicable view	config view
Function Description	Enter the acl view from the config view .
<acl ID>	<2000-2999> basic acl| <3000-4999> advanced acl| <5000-5999> link ac

【Configuration case】

Case 1: Enter the basic acl view from the config view:

```
OLT(config)# acl 2000
ACL ID Create OK!

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

Case 2: Enter advanced acl view from config view:

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

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

Case 3: Enter the link acl view from the config view:

```
OLT(config)# acl 5000

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

2.1.5.Enter Multicast-vlan view

Command syntax	OLT(config)# **multicast-vlan <multicast-vlan ID>**
Applicable view	config view
Function Description	Enter the multicast-vlan view from the config view .
<multicast-vlan ID>	Multicast vlan ID, the value range can be 1-4094

【Configuration case】

Case 1: Enter the multicast-vlan 100 view from the config view:

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

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

2.1.6.Exit to exit any view

Command syntax	OLT(config)# **exit**
Function Description	Exit to the previous view from any view .

【Configuration case】

Case 1: Exit from the config view to the enable view:

```
OLT(config)# exit

OLT#
```

3.Equipment upgrade

3.1.Upgrade OLT software

3.1.1.FTP server upgrade

Command syntax	OLT(config)# **load packetfile ftp <ftp-server-ip> <user-name> <user-password> <file-name>**
Applicable view	enable view, config view
Function Description	This command is used to upgrade the OLT software version. This command can only be used under the root account .

<ftp-server-ip>	IP address of the FTP server
<user-name>	Username set on the FTP server
<user-password>	Password set on the FTP server
<file-name>	The name of the OLT software to be downloaded

【Configuration case】

Case 1: Upgrade the OLT application, the program file name is New16Port_Image_V1.0.0_180530_1928.img, the ftp server IP address is 192.168.1.16, the ftp user name is amdin, and the password is admin. After the OLT displays upgrade OK, restart the OLT.

```
OLT(config)# load packetfile ftp 192.168.1.16 admin admin New16Port
_Image_V1.0.0_180530_1928.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
```

3.1.2.TFTP server upgrade

Command syntax	OLT(config)# **load packetfile tftp <tftp-server-ip><file-name>**
Applicable view	enable view, config view
Function Description	This command is used to upgrade the OLT software version. This command can only be used under the root account .
<tftp-server-ip>	IP address of the TFTP server
<file-name>	The name of the OLT software to be downloaded

【Configuration case】

Case 1: Upgrade the OLT application, the file name is New16Port_Image_V1.0.0_180530_1928.img, and the tftp server IP address is 192.168.1.16. After the OLT displays upgrade OK, restart the OLT.

```
OLT(config)# load packetfile tftp 192.168.1.16 New16Port
_Image_V1.0.0_180530_1928.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.O LT automatic upgrade

3.2.1.Transfer the upgrade file of the OLT to the OLT

Command syntax	OLT(config)# **load file to flash {ftp <ip-address> < ftp - user - name > < FTP - user - password > < FILE-NAME >} | { tftp <ip-address> < FILE-NAME >}**
Applicable view	config view
Function Description	This command is used to transfer the upgrade file of the OLT to the OLT .
ftp	Use the ftp protocol to transfer the ONT upgrade file to the OLT
<ip-address>	The ip address of the ftp or tftp server, in the format XXXX
< FTP - user - name >	The access user name of the ftp server, the value range is 1-32 characters
< FTP - user - password >	The access password of the ftp server, the value range is 1-32 characters
< FILE-NAME >	OLT , the value range is 1-64 characters, and the extension of the OLT upgrade file needs to be added
tftp	Use tftp protocol to transfer OLT upgrade files to OLT

【Configuration case】

Case 1: Use tftp to transfer the upgrade file of OLT to OLT

```
OLT(config)# load file to flash tftp 192.168.5.155 V1.0.4_190307.img
```

3.2.2.View the upgrade file of OLT

Command syntax	OLT(config)# **show flash file**
Applicable view	config view
Function Description	This command is used to view the OLT upgrade file uploaded to the OLT

【Configuration case】

Case 1: View the uploaded OLT upgrade file

```
OLT(config)# show flash file
```

```
---------------------------------------------- ------------------------
file list:
File Name Size(B) Creation Time Attribute
---------------------------------------------- ------------------------
V1.0.5_190701.img 20512256 2019/10/16 09:22:24 +0000 -rw
---------------------------------------------- ------------------------
Files Total: 1
---------------------------------------------- ------------------------
```

3.2.3.Delete the upgrade file of OLT

Command syntax	OLT(config)# **flash file delete < FILE-NAME >**
Applicable view	config view
Function Description	This command is used to delete the OLT upgrade file uploaded to the OLT

【Configuration case】

Case 1: Delete the uploaded OLT upgrade file

```
OLT(config)# flash file delete V1.0.5_190701.img
Delete V1.0.5_190701.img successfully!
```

3.2.4.Configure automatic upgrade time

Command syntax	OLT(config)# **olt autoupdate image < FILE-NAME > time < time >**
Applicable view	config view
Function Description	This command is used to configure the OLT automatic upgrade file and time
< FILE-NAME >	OLT , the value range is 1-64 characters, and the extension of the OLT upgrade file needs to be added
< time >	Automatic upgrade time, format: YYYY/MM/DD-HH:MM:SS

【Configuration case】

Case 1: Configure OLT to automatically upgrade to version 1.0.4 at 7:00 pm on 2019-10-11

```
OLT(config)# olt autoupdate image V1.0.4_190307.img time 2019/10/11-19:00:00
```

3.2.5.Delete the OLT automatic upgrade configuration file

Command syntax	OLT(config)# **no olt autoupdate config**
Applicable view	config view
Function Description	This command is used to delete the OLT automatic upgrade configuration file

【Configuration case】

Case 1: Delete the OLT automatic upgrade configuration file

```
OLT(config)# no olt autoupdate config
```

3.2.6.View OLT automatic upgrade configuration file information

Command syntax	OLT(config)# **show olt autoupdate config**
Applicable view	config view
Function Description	This command is used to view the OLT automatic upgrade configuration file information

【Configuration case】

Case 1: View the OLT automatic upgrade configuration file

```
OLT(config)# show olt autoupdate config
Configuration olt autoupdate switch : disable
Configuration olt autoupdate time : --
Configuration olt autoupdate image : --
```

3.2.7.Enabling and disabling the automatic upgrade function of OLT

Command syntax	OLT(config)# **olt autoupdate {enable|disable}**
Applicable view	config view
Function Description	To enable or disable the automatic upgrade function, you need to upload the upgrade file and configure the automatic upgrade time first.
enable|disable	disable: Disable the automatic upgrade function. enable: Enable the automatic upgrade function.

【Configuration case】

Case 1: Enable OLT automatic upgrade function

```
OLT(config)# olt autoupdate enable
```

3.3.Show hardware version information of the OLT

Command syntax	OLT(config)# **show version**
Applicable view	enable view, config view
Function Description	This command is used to view OLT hardware and software information.

【Configuration case】

Case 1: View device version information.

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

OLT(config)#
```

3.4.View the current loading, copying, and backup progress of the OLT

Command syntax	OLT(config)# **show progress load**
Applicable view	enable view, config view
Function Description	This command is used to query the progress of a load, copy, or backup operation currently being performed by the device. When the device is performing loading, copying, and backup operations, if you need to view the progress of the current operation and understand the status of the operation, use this command.

【Configuration case】

Case 1: Check the loading progress.

```
OLT(config)# show progress load
---------------------------------------------- ---------------------------------------
Transmit Protocol : 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.Device management

4.1.Restart the OLT

Command syntax	OLT(config)# **reboot**
Applicable view	enable view, config view
Function Description	This command is used to restart the OLT. Only the root user group has this permission.

【Configuration case】

Case 1: Restart the OLT.

```
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):
```

4.2.Initialize the OLT

Command syntax	OLT(config)# **erase saved-config** OLT(config)# **reboot**
Applicable view	config view
Function Description	These two commands are used to restore the OLT to the factory, and only the root user group has this permission.

【Configuration case】

Case 1: Initialize the OLT.

```
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):
```

4.3.Configuring the out-of-band management IP of the OLT

Command syntax	OLT(config-interface-mgmt)# **ip address <ip-address> {<ip-address-mask>|<length of mask> }**
Applicable view	mgmt view
Function Description	The ip address command is used to configure the IP address and subnet mask of the out-of-band management interface. The OLT can be accessed through this IP address.
<ip-address>	IP address. IP addresses are divided into five categories. Users can select the appropriate IP subnet according to the actual situation. When the host address part is all 0 or all 1, it has a special effect and cannot be used as a general IP address.
<ip-address-mask>	Subnet mask. The format is XXXX
<length of mask>	Subnet mask length, the value is 0-32

【Configuration case】

Case 1: Configure the IP address of the OLT's out-of-band management interface as 192.168.5.68 and the subnet mask length as 24.

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

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

4.4.Configure the in-band vlanif virtual interface of the OLT

Command syntax	OLT(config-interface-vlanif-100)# **ip address <ip-address> {<ip-address-mask>|<length of mask>}**
Applicable view	vlanif view
Function Description	The ip address command is used to configure the IP address and subnet mask of the VLAN interface. Use this command when you need to allow the IP packets in the VLAN to participate in Layer 3 forwarding. After the interface IP address and subnet mask are configured successfully, the IP packets in the VLAN are forwarded at Layer 3 with this IP address .

<ip-address>	IP address. IP addresses are divided into five categories. Users can select the appropriate IP subnet according to the actual situation. When the host address part is all 0 or all 1, it has a special effect and cannot be used as a general IP address.
<ip-address-mask>	Subnet mask. The format is XXXX
<length of mask>	Subnet mask length, the value is 0-32

【Configuration case】

Case 1: Configure the IP address of the vlanif virtual interface of the OLT as 192.168.100.1 and the subnet mask as 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.View Out-of-Band Management Interfaces

Command syntax	OLT(config)# **show interface mgmt**
Applicable view	config view
Function Description	This command is used to query the IP address, maximum transmission unit, and device MAC address of the out-of-band management interface.

【Configuration case】

Case 1: View the IP address, MTU, and interface Mac address of the OLT's out-of-band management 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
Receive 1211697 packets, 110976849 bytes
Transmit 1010970 packets, 181111550 bytes

OLT(config)#
```

4.6.View OLT device information

Command syntax	OLT(config)# **show device**
Applicable view	enable view, config view
Function Description	This command is used to query the model, mac address, SN, and manufacturer name of the OLT.

【Configuration case】

Case 1: View the device information of the OLT.

```
OLT(config)# show device
---------------------------------------------- ----------------------------------------
Device model : New16Port
Device MAC address : E0:67:B3:00:00:A1
Device serial-number : AF2101-160130001
Device vendor name : XPON
---------------------------------------------- ----------------------------------------
```

4.7.Configure user login timeout

Command syntax	OLT(config)# **exec-timeout <time>**
Applicable view	enable view, config view
Function Description	This command is used to configure the user login timeout period. When the user does not perform any operation on the device within the set time, it will automatically log out. The default is 300 seconds.
<time>	Execution timeout, the range is 1-36000, the unit is seconds

【Configuration case】

Case 1: Configure the execution timeout to 36000 seconds.

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

OLT(config)#
```

4.8.View user execution timeout

Command syntax	OLT(config)# **show exec-timeout**
Applicable view	enable view, config view
Function	This command is used to view the user execution timeout time.

Description	

【Configuration case】

Case 1: View the user execution timeout.

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

OLT#
```

4.9.Exit the current system

Command syntax	OLT(config)# **logout**
Applicable view	view view, enable view, config view
Function Description	This command is used to exit the current system.

【Configuration case】

Case 1: Exit the current system.

```
OLT# logout

>>User name:
```

4.10.Exit to view view

Command syntax	OLT(config)# **end**
Applicable view	other views than the view view
Function Description	This command is used to exit directly to the view view from other views other than the vlew view.

【Configuration case】

Case 1: Exit from the config view to the view view.

```
OLT(config)# end

OLT>
```

4.11.Configure the IP address of the DNS server

Command	OLT(config)# **dns server <ip-addr>**

syntax	
Applicable view	config view
Function Description	This command is used to configure the IP address of the DNS server of the OLT.
<ip-addr>	IP address in the format of XXXX

【Configuration case】

Case 1: The IP address of the DNS server of the OLT is 192.168.5.1.

```
OLT(config)# dns server 192.168.5.1

OLT(config)#
```

4.12.Delete the IP address of the DNS server

Command syntax	OLT(config)# **no dns server <ip-addr>**
Applicable view	config view
Function Description	This command is used to delete the system domain name server. No parameter is used to delete the preferred and alternate DNS servers.
<ip-addr>	IP address in the format of XXXX

【Configuration case】

Case 1: Delete the DNS server with the OLT IP address 192.168.5.1.

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

OLT(config)#
```

4.13.View the IP address of the DNS server

Command syntax	OLT(config)# **show dns server**
Applicable view	config view
Function Description	This command is used to view the IP address of the DNS server of the OLT.

【Configuration case】

Case 1: View the IP address of the OLT's DNS server.

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

```
IPv4 DNS Servers :
Domain-server IpAddress
1 192.168.5.1

OLT(config)
```

4.14.View LICENSE file information

Command syntax	OLT(config)# **show license**
Applicable view	config view
Function Description	This command is used to view the license file information in the current system

【Configuration case】

Case 1: View the license file of the OLT

```
OLT(config)# show license
License : 254a18babd1df261f949026af31ed4bc2af3c4e8dcb98c962283cb8f8d512bbd
Max pon port : 8
Effective pon port : 8
Time limit : Unlimited
OLT(config)#
```

4.15.User file deletion

Command syntax	OLT(config)# **file delete <filename>**
Applicable view	config view
Function Description	This command is used to delete user files

【Configuration case】

Case 1 : delete the file named file23

```
OLT(config)# file delete file23
```

4.16.file deletion

Command syntax	OLT(config)# **file delete**
Applicable view	config view
Function Description	This command is used to delete all files

【Configuration case】

Case 1 : Delete Files

```
OLT(config)# file delete
OLT(config)#
```

4.17.Configure the OLT system name

Command syntax	OLT(config)# **sysname <name>**
Applicable view	config view
Function Description	This command is used to configure the name of the OLT displayed on the command line of the OLT.
<name>	The network name of the OLT, which supports 1-16 characters.

【Configuration case】

Case 1: Configure the network name of the OLT as test.

```
OLT(config)# sysname test

test(config)#
```

4.18.Device Diagnostic Information

4.18.1.Ping Diagnostic Commands

Command syntax	OLT(config)# **ping <DESTINATION>| < ip >**
Applicable view	enable view or config view
Function Description	between the device and the target host
<DESTINATION>	Destination IP address or hostname. IP addresses are divided into five

	categories. Users can choose the appropriate IP subnet according to the actual situation. When the host address part is all 0 or all 1, it has a special effect and cannot be used as a general IP address. The format is xxxx.
< ip >	Destination IP address or hostname, same as **<DESTINATION>** .

【Configuration case】

target IP address 192.168.5.50 on the OLT

```
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)#
```

4.18.2.Traceroute Diagnostic Commands

Command syntax	OLT(config)# **traceroute < DESTINATION >**
Applicable view	enable view or config view s
Function Description	Through traceroute, you can know what path the information takes from the computer to the host on the other end of the Internet.
<Destination-IP >	Destination IP address or hostname. IP addresses are divided into five categories. Users can choose the appropriate IP subnet according to the actual situation. When the host address part is all 0 or all 1, it has a special effect and cannot be used as a general IP address. The format is xxxx.

【Configuration case】

Traceroute target IP address 192.168.5.50 on OLT

```
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)#
```

5.Condition monitoring

5.1.Check the working status of the OLT cooling fan

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

【Configuration case】

Case 1: Check the working status of the cooling fan of the OLT.

```
OLT# show fan
---------------------------------------------- ---------------------------------------
FAN[1] status: Normal (6660RPM)
FAN[2] status: Normal (6660RPM)
FAN[3] status: Normal (6720RPM)
FAN[4] status: Normal (6780RPM)
---------------------------------------------- ---------------------------------------

OLT#
```

5.2.View the real-time operating temperature of the OLT

Command syntax	OLT(config)# **show temperature**
Applicable view	enable view, config view
Function Description	This command is used to view the real-time operating temperature of the OLT.

【Configuration case】

Case 1: View the real-time operating temperature of the OLT.

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

5.3.View the memory usage of the OLT

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

【Configuration case】

Case 1: Check the memory usage of the OLT.

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

OLT#
```

5.4.Time to configure the OLT

Command syntax	OLT(config)# **time <time>**
Applicable view	config view
Function Description	This command is used to configure the time of the OLT.
<time>	Time, format: YYYY/MM/DD-HH:MM:SS

【Configuration case】

Case 1: Time to configure OLT.

```
OLT(config)# time 2018/06/22-15:35:59

OLT(config)#
```

5.5.Check the time of the OLT

Command syntax	OLT(config)# **show time**
Applicable view	enable view, config view

Function Description	This command is used to view the time of the OLT.

【Configuration case】

Case 1: Check the time of OLT.

```
OLT(config)# show time
2018-06-22 15:36:18 +00:00

OLT(config)#
```

5.6.Configuring Temperature Thresholds for the OLT System

Command syntax	OLT(config)# **temperature threshold high-temperature** *value*
Applicable view	config view
Function Description	This command is used to configure the temperature threshold of the OLT system. If the real-time temperature is higher than the configured system temperature threshold, an alarm will be reported. The default is 80° C .
value	The temperature threshold of the OLT system, the value range is 40-105, the unit is ° C

【Configuration case】

Case 1: Configure the maximum temperature threshold of the OLT system to be 40° C.

```
OLT(config)# temperature threshold high-temperature 40

OLT(config)#
```

5.7.View temperature thresholds for OLT systems

Command syntax	OLT(config)# **show temperature threshold**
Applicable view	config view
Function Description	This command is used to view the temperature threshold of the OLT system.

【Configuration case】

Case 1: View the OLT system temperature threshold.

```
OLT(config)# show temperature threshold
The temperature high-threshold of the system : 80(C)
```

```
OLT(config)#
```

5.8.View the start-up time and operating hours of the OLT

Command syntax	OLT(config)# **show uptime**
Applicable view	enable view, config view
Function Description	This command is used to view the startup time and running time of the OLT.

【Configuration case】

Case 1: Check the startup time and running working 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#
```

5.9.Configuring a Network Time (NTP) Server

Command syntax	OLT(config)# **ntp-service unicast-service {<ip-addr>|<domain name>}**
Applicable view	config view
Function Description	This command is used to configure the network time NTP server of the OLT.
<ip-addr>	The IP address of the network time server, in the format of XXXX
<domain name>	The domain name of the network time server

【Configuration case】

Case 1: Configure the OLT NTP server address as 202.120.2.101

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

OLT(config)#
```

5.10.Delete Network Time (NTP) Server

Command syntax	OLT(config)# **no ntp-service unicast-service {<ip-addr>|<domain name>}**

Applicable view	config view
Function Description	This command is used to delete the network time NTP server of the OLT.
<ip-addr>	The IP address of the network time server, in the format of XXXX
<domain name>	The domain name of the network time server

【Configuration case】

Case 1: Delete the OLT NTP server address as 202.120.2.101

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

OLT(config)#
```

5.11.Configure the maximum recorded value of performance statistics

Command syntax	OLT(config)# **statistics max-record <15min** *record-number of 15min* **> | <24hour** *record-number of 24hour* **>**
Applicable view	config view
Function Description	This command is used to configure the maximum record value of OLT performance statistics.
record-number of 15min	Configure the maximum record value of the performance statistics function with an interval of 15 minutes, in the range of 1-96.
record-number of 24hours	Configure the maximum record value of the performance statistics function with an interval of 24 hours, ranging from 1 to 7.

【Configuration case】

Case 1: The maximum statistic value of the performance statistic function configured with a time interval of 24 hours is 6 .

```
OLT(config)# statistics max-record 24hour 6

OLT(config)#
```

5.12.View session information for Network Time (NTP) servers

Command syntax	OLT(config)# **show ntp-service session**
Applicable view	config view

Function Description	This command is used to view the session information of the network time NTP server of the OLT.

【Configuration case】

Case 1: View the session information of the OLT 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)#
```

5.13.Configure the OLT system time zone

Command syntax	OLT(config)# **timezone gmt+/gmt- <timezone>**
Applicable view	config view
Function Description	Set the system time zone to be the east time zone or the west time zone. "GMT+" indicates the Eastern Time Zone, that is, the local time is faster than Greenwich Mean Time, and "GMT-" indicates the Western Time Zone, that is, the local time is slower than Greenwich Mean Time.
<timezone>	Time zone time, the format is hh:mm, the maximum value of the east time zone is 18:00, and the maximum value of the west time zone is 18:00.

【Configuration case】

Case 1: Configuring the OLT system time zone

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

OLT(config)#
```

5.14.View the current time zone of the OLT system

Command syntax	OLT(config)# **show timezone**
Applicable view	config view
Function Description	This command is used to view the current time zone of the OLT system.

【Configuration case】

Case 1: View the current time zone of the OLT system

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

OLT(config)#
```

5.15.View the specified Mac address information

Command syntax	OLT(config)# **show location <mac-addr>**
Applicable view	config view
Function Description	This command is used to view information about the local mac address of the OLT.
<mac-addr>	Mac address in the format xx:xx:xx:xx:xx:xx

【Configuration case】

Case 1: View the information of the OLT local mac address E0:56:43:A9:B4:1A

```
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)#
```

5.16.View OLT static MAC address

Command syntax	OLT(config)# **show mac-address static [(include|exclude) STRING]**

Applicable view	config view
Function Description	static MAC addresses learned by the OLT .
STRING	Regular expression, length 1-64 bytes
include	Match contains regular expression
exclude	match does not contain regular expressions

【Configuration case】

static mac addresses learned by the OLT .

```
OLT(config)# show mac-address static
---------------------------------------------- ----------------------------------------
Total: 5
---------------------------------------------- ----------------------------------------
MAC    VLAN    Sport    Port    Onu    Gemid    MAC-Type
---------------------------------------------- ----------------------------------------
E0:67:B3:00:00:05 300 - cpu - - static
E0:67:B3:00:00:05 400 - cpu - - static
E0:B7:63:00:00:46 1 - cpu - - static
E0:67:B3:00:00:05 500 - cpu - - static
E0:67:B3:12:EB:F6 100 - ge0/0/1 - - static
---------------------------------------------- ----------------------------------------
```

5.17.View OLT CPU usage

Command syntax	OLT(config)# **show cpu**
Applicable view	Enable view, config view
Function Description	This command is used to view the usage of OLT CPU.

【Configuration case】

Case 1: View OLT CPU usage

```
OLT(config)# show cpu
---------------------------------------------- ----------------------------------------
Utilization: 54%
Load Average(1min) : 8.11
Load Average(5min) : 8.38
Load Average(15min) : 8.39
---------------------------------------------- ----------------------------------------
```

```
OLT(config)#
```

5.18.View OLT Power Status

Command syntax	OLT(config)# **show power state**
Applicable view	config view
Function Description	This command is used to view the power status of the OLT device

【Configuration case】

Case 1: View OLT Power Status

```
OLT(config)# show power state
------------------------------------------------ ------------------------------------
Slot-ID WorkStatus
------------------------------------------------ ------------------------------------
1 not working
2 working
```

5.19.View the history information of the most recently entered commands of the OLT

Command syntax	OLT(config)# **show history**
Applicable view	View view, enable view, config view
Function Description	This command is used to view the history information of recently entered commands.

【Configuration case】

Case 1: View the historical information of the most recent OLT input commands

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

OLT(config)#
```

6.Configuration management

6.1.Back up the OLT configuration

6.1.1.FTP server backup configuration

Command syntax	OLT(config)# **backup configuration format <gz|txt> ftp <server-ip-address> <user-name> <user-password> <filename>**
Applicable view	enable view, config view
Function Description	Back up the OLT configuration
Format<gz|txt>	Backup configuration file format: gz format and txt format
<server-ip-address>	ftp server ip address
<user-name>	ftp username
<user-password>	ftp user password
<filename>	The name of the backup configuration file, the name is set by yourself, and the file format name is not required

【Configuration case】

Case 1: Backup the configuration file of the device, the configuration file name is config, the backup file type is gz, the ftp server IP address is 192.168.1.16, the ftp user name is amdin, and the password is admin.

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

OLT(config)#
```

6.1.2.TFTP server backup configuration

Command syntax	OLT(config)# **backup configuration format <gz|txt> tftp <server-ip-address> <filename>**
Applicable view	enable view, config view
Function	Back up the OLT configuration

Description	
<server-ip-address>	tftp server ip address
<filename>	The name of the backup configuration file, the name is set by yourself, and the file format name is not required
Format<gz|txt>	Backup configuration file format: gz format and txt format

【Configuration case】

Case 1: The configuration file of the backup device, the configuration file name is config, the backup file type is gz, and the IP address of the tftp server is 192.168.5.202.

```
OLT# backup configuration format gz tftp 192.168.5.202 config
Start backup configuration files
The backup is successful

OLT#
```

6.2.Restoring the OLT configuration

6.2.1.FTP server restore configuration

Command syntax	OLT(config)# load configuration format <gz|txt> ftp <server-ip-address> <user-name> <user-password> <filename>
Applicable view	enable view, config view
Function Description	Restoring the OLT configuration
<server-ip-address>	ftp server ip address
<user-name>	ftp username
<user-password>	ftp user password
<filename>	The name of the configuration file to be downloaded, which is the file name backed up from the OLT.
Format<gz|txt>	Backup configuration file format: gz format and txt format

【Configuration case】

Case 1: Download the configuration file of the device, the configuration file name is config , the backup file format is gz , the ftp server IP address is 192.168.1.16, the ftp user name is amdin,

and the password is admin.

```
OLT(config)# load configuration format gz 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):y
Start loading configuration
The loading is successful!
```

6.2.2.TFTP server restore configuration

Command syntax	OLT(config)# **load configuration format <gz|txt> tftp <server-ip-address> <filename>**
Applicable view	enable view, config view
Function Description	Back up the configuration file of the OLT
<server-ip-address>	tftp server ip address
<filename>	The name of the configuration file to be downloaded, which is the file backed up from the OLT.
Format<gz|txt>	Backup configuration file format: gz format and txt format

【Configuration case】

Case 1: Download the configuration file of the device, the name of the configuration file is config, the format of the backup file is gz, and the IP address of the tftp server is 192.168.1.16.

```
OLT(config)# load configuration format gz 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):y
Start loading configuration
The loading is successful!

OLT(config)#
```

6.3.Related configuration of periodic backup function

6.3.1.Enabling and disabling the automatic periodic backup function

Command syntax	OLT(config)# **auto-backup period { alarm |configuration|log} enable/disable**
Applicable view	config view
Function Description	This command is used to configure the periodic backup switch of

	alarm or configuration or log . Save to this computer
enable/disable	enable: Enable the automatic periodic backup alarm function disable: Disable the automatic periodic backup alarm function
{ alarm | configuration | log }	Alarm: alarm Configuration: configuration Log: log

【Configuration case】

Case 1: Enable automatic periodic backup alarm function

```
OLT(config)# auto-backup period alarm enable
```

6.3.2.Set automatic backup cycle and backup time

Command syntax	OLT(config)# **auto-backup period { alarm |configuration|log} interval <days> time <HH:MM>**
Applicable view	config view
Function Description	This command is used to configure the automatic periodic backup alarm, backup cycle and backup time of configuration or log. When a certain cycle needs to be automatically backed up to the local machine, use this command. Periodic backup can be started only when the switch is turned on. If no backup period is configured, the backup period will automatically take the default value.
<days>	Set the backup period, the unit is days
<HH:MM>	Set the backup time in the format <hour:minute>

【Configuration case】

Case 1: Configure the backup cycle of automatic periodic backup alarm to be one day and the backup time to be 11:35

```
OLT(config)# auto-backup period alarm interval 1 time 1 1 : 35
```

6.3.3.Function configuration of automatically backing up information to a server with a specified address

Command syntax	OLT(config)# **(no) auto-backup server { alarm |configuration|log} { tftp /ftp} <ip>**
Applicable view	config view
Function Description	This command is used to automatically save the automatic backup alarms, configurations, and logs to the server with the specified ip address
{ alarm | configuration |	Alarm: Set the automatic backup alarm information to the server with the specified ip address

log }	Configuration: Set the automatic backup configuration information to the server with the specified ip address Log: Set up automatic backup log information to the server with the specified ip address

【Configuration case】

Case 1: Set up automatic backup alarm information to the server with the specified ip address 193.168.5.163

```
OLT(config)#backup server alarm tftp 192.168.5.163
```

6.4.View the current real-time configuration of the OLT

Command syntax	OLT(config)# **show current-config**
Applicable view	enable view, config view
Function Description	This command is used to view live configuration files. After a user completes a set of configurations, to verify whether the configuration is correct, and to query the currently effective configuration commands, use this command.

【Configuration case】

Case 1: View the current real-time configuration file of the OLT

```
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 0|0
spanning-tree edged-port 1 enable
spanning-tree priority 1 16
spanning-tree cost 1 1600
spanning-tree mcheck 1 enable
exit
```

6.5.Save the current configuration of the OLT

Command syntax	OLT(config)# **save**
Applicable view	enable view, config view
Function Description	This command is used to save the configuration file of the current device.

【Configuration case】

Case 1: Save the current real-time configuration file of the OLT

```
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)#
```

6.6.Delete the OLT configuration save file

Command syntax	OLT(config)# **erase saved-config**
Applicable view	config view
Function Description	This command is used to erase the configuration save file. After executing this command, restart the OLT, and the OLT will restore the factory settings.

【Configuration case】

Case 1: Delete the configuration save file

```
OLT# erase saved-config
This command will clear the active board data that has been saved
please rememb
er to backup the system configuration data
```

```
Are you sure to continue? (y | n)[n]: y

Successfully restored factory configuration!
```

6.7.View OLT configuration save file

Command syntax	OLT(config)# **show saved-config**
Applicable view	enable view, config view
Function Description	This command is used to view the OLT configuration save file.

【Configuration case】

Case 1: View the OLT configuration save file

```
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 0|0
spanning-tree edged-port 1 enable
spanning-tree priority 1 16
spanning-tree cost 1 1600
spanning-tree mcheck 1 enable
exit
```

6.8.Enable/disable automatic saving of configuration period

Command syntax	OLT(config)# **autosave interval on /off**
Applicable view	config view
Function Description	This command is used to enable or disable the auto save function
On / off	on : Turn on the automatic cycle automatic save function off : Turn off the automatic cycle automatic save function

【Configuration case】

Case 1 : Turn on the cycle automatic save function

```
OLT(config)# autosave interval on
```

6.9.Configure the time interval for periodic auto-save

Command syntax	OLT(config)# **autosave interval configuration < Interval>**
Applicable view	config view
Function Description	This command is used to configure the autosave feature
Interval	Iterval: refers to the time interval, in hours and minutes

【Configuration case】

Case 1 : Set the auto save interval to 2 minutes

```
OLT(config)# autosave interval configuration 2
```

6.10.Turn on/off the automatic cycle saving configuration function at a specific time

Command syntax	OLT(config)# **autosave time on /off**
Applicable view	config view
Function Description	This command is used to enable or disable the auto save function
On / off	on: Turn on the automatic cycle automatic save function off: Turn off the automatic cycle automatic save function

【Configuration case】

Case 1 : Turn on automatic save at specified time

```
OLT(config)# autosave time on
```

6.11.Automatically save configuration at specific time

Command syntax	OLT(config)#autosave time configuration < HH:MM >
Applicable view	config view

Function Description	This command is used to configure the autosave feature
HH:MM	HH:MM: refers to the time of automatic saving, in hours and minutes

【Configuration case】

Case 1 : Set the auto save time to 13:35

```
OLT(config)# autosave time configuration 13:35
```

7.User Management

7.1.Add new user and user password

Command syntax	OLT(config)# **user add <user-name> <user-password> {admin|guest|root }**
Applicable view	config view
Function Description	This command is used to add a new user, a new user password, and the groups to which the new user belongs are root, admin, and guest. root: The user has all permissions on the device. admin: The user has configuration and view permissions, but does not have the permissions to restart, upgrade, save configuration, and view users. guest: The user has the functions of viewing configuration and backup.
<user-name>	Username of the new user
<user-password>	Set username and password
admin|guest|root	The permissions to which the new user belongs, including root, admin, and guest

【Configuration case】

Case 1: Create a new admin user, the user name is test, and the password is test

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

7.2.delete users

Command syntax	OLT(config)# **user delete <name>**

Applicable view	config view
Function Description	This command is used to delete the created user. Note that the root user cannot be deleted .
<name>	Username to be deleted

【Configuration case】

Case 1: Delete the user whose username is test.

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

7.3.Modify user password

Command syntax	OLT(config)# **user [<user-name>] password <user-password>**
Applicable view	config view
Function Description	This command is used to modify the user's password . user password <user-password> : Modify the login password of the current user.
<user-name>	Username whose password is to be changed
<user-password>	password to change

【Configuration case】

Case 1: Change the password of user 111 to 123456

```
olt(config)# user 111 password ******

olt(config)#
```

7.4.View all created users of OLT

Command syntax	OLT(config)# **show user**
Applicable view	config view
Function Description	This command is used to query all created users of the device.

【Configuration case】

Case 1: View all created users of OLT

```
OLT(config)# show user
---------------------------------------------- ----------------------------------------
User Group
---------------------------------------------- ------------------------
root root
yao guest
test admin
---------------------------------------------- ----------------------------------------
OLT(config)#
```

7.5.View logged in user information

Command syntax	OLT(config)# **show client**
Applicable view	view view, enable view, config view
Function Description	This command is used to check information about user login.

【Configuration case】

Case 1: View OLT logged in user information

```
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.the telnet login user offline

Command syntax	OLT(config)# **client kick-off <client-id>**
Applicable view	enable view, config view
Function Description	This command is used to force a telnet logged in user offline.
<client-id>	The ID of the logged in user, the value range can be 1-4294967295. The ID can be viewed with the show client command.

【Configuration case】

Case 1: Forcibly kick 44 logged-in users offline

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

8.SNMP configuration

8.1.Enabling and disabling the SNMP function

Command syntax	OLT(config)# **service snmp {enable|disable }**
Applicable view	config view
Function Description	The OLT can be managed by EMS only if the function of the SNMP agent is enabled. After disabling this function, the OLT cannot be managed by EMS.
enable|disable	disable: Disable the snmp proxy function. enable e: Enable the snmp proxy function.

【Configuration case】

Case 1 : Enable snmp proxy function

```
OLT(config)# service snmp en able
OLT (config) #
```

8.2.View SNMP agent function status

Command syntax	OLT(config)# **show snmp-agent status**
Applicable view	config view
Function Description	This command is used to view the status of the snmp function.

【Configuration case】

Case 1: View the status of the OLT snmp function

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

OLT(config)#
```

8.3.Configure the name of the SNMP read community

Command syntax	OLT(config)# **snmp-agent community read <community-name>**
Applicable view	config view
Function Description	This command is used to configure the name of the snmp read community.
<community-name>	Read the name of the community, supports 1-32 characters. Generally set to public

【Configuration case】

Case 1: Configure the read community of the snmp agent as public

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

8.4.View SNMP Agent Read Community

Command syntax	OLT(config)# **show snmp-agent community read**
Applicable view	config view
Function Description	This command is used to view the information of the snmp read community.

【Configuration case】

Case 1: View the read community information of OLT snmp

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

OLT(config)#
```

8.5.Configure the name of the SNMP write community

Command syntax	OLT(config)# **snmp-agent community write <community-name>**
Applicable view	config view
Function	This command is used to configure the name of the snmp write

Description	community.
<community-name>	Write the name of the community, 1-32 characters are supported. Usually set to private

【Configuration case】

Case 1: Configure the write community of the snmp agent as private

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

8.6.View SNMP Agent Write Community

Command syntax	OLT(config)# **show snmp-agent community write**
Applicable view	config view
Function Description	This command is used to view the information of the snmp write community.

【Configuration case】

Case 1: View the write community information of OLT snmp

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

OLT(config)#
```

8.7.Configuring SNMP Agents with Authentication for Security Mode-Based Groups

Command syntax	OLT(config)# **snmp-agent group v3 <group-name> authentication {[notify-view <none|all>]|[read-view <none|all>]|[write-view <none|all>]}**
Applicable view	config view
Function Description	This command is used to configure the security mode-based group of the snmp proxy with authentication.
<group-name>	Group name, supports 1-32 characters.

notify-view	Specifies the notification view corresponding to this group name.
read-view	Set the read-only view corresponding to this group name.
write-view	Set the read-write view corresponding to the group name.
none	does not match the view.
all	matches all views.

【Configuration case】

Case 1: Configure a security mode-based group with authentication for the snmp agent. The group name is test, which corresponds to all notification views.

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

OLT(config)#
```

8.8.Configuring SNMP Agents without Authentication for Security Mode Based Groups

Command syntax	OLT(config)# **snmp-agent group v3 <group-name> noauth {[notify-view <none|all>]|[read-view <none|all>]|[write-view <none|all>]}**
Applicable view	config view
Function Description	This command is used to configure the security mode based group of snmp agent without authentication.
<group-name>	Group name, supports 1-32 characters.
notify-view	Specifies the notification view corresponding to this group name.
read-view	Set the read-only view corresponding to this group name.
write-view	Set the read-write view corresponding to the group name.
none	does not match the view.
all	matches all views.

【Configuration case】

Case 1: Configure a security mode-based group without authentication for the snmp agent. The group name is test, which corresponds to all read views.

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

```
OLT(config)#
```

8.9.Configuring SNMP Agent Hidden Security Mode Based Groups

Command syntax	OLT(config)# **snmp-agent group v3 <group-name> privacy {[notify-view <none|all>]|[read-view <none|all>]|[write-view <none|all>]}**
Applicable view	config view
Function Description	This command is used to configure security mode based groups hidden by snmp agent.
<group-name>	Group name, supports 1-32 characters.
notify-view	Specifies the notification view corresponding to this group name.
read-view	Set the read-only view corresponding to this group name.
write-view	Set the read-write view corresponding to the group name.
none	does not match the view.
all	matches all views.

【Configuration case】

Case 1: Configure a security mode-based group hidden by the snmp agent. The group name is test, which corresponds to all read-write views.

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

OLT(config)#
```

8.10.Configuring SNMP Agent System Description Information

Command syntax	OLT(config)# **snmp-agent sys-info description <description>**
Applicable view	config view
Function Description	This command is used to configure the description information of the snmp agent system
<description>	Description information, supports 1-100 characters. The default value is description

【Configuration case】

Case 1: Configure the description information of the snmp agent system as test

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

OLT(config)#
```

8.11.Configuring SNMP Agent System Location Information

Command syntax	OLT(config)# **snmp-agent sys-info location <location>**
Applicable view	config view
Function Description	This command is used to configure the location information of the snmp proxy system
<location>	Description information, supports 1-100 characters. The default value is location

【Configuration case】

Case 1: Configure the location information of the snmp proxy system as test1

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

OLT(config)#
```

8.12.Configuring SNMP Agent System Contact Information

Command syntax	OLT(config)# **snmp-agent sys-info contact <contact>**
Applicable view	config view
Function Description	This command is used to configure snmp agent system contact information
<contact>	Description information, supports 1-100 characters. Default is contact

【Configuration case】

Case 1: Configure the contact information of the snmp proxy system as test2

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

OLT(config)#
```

8.13.Configuring SNMP Agent System Name Information

Command syntax	OLT(config)# **snmp-agent sys-info name <name>**

Applicable view	config view
Function Description	This command is used to configure snmp agent system name information
<name>	Description information, supports 1-100 characters. Default is name

【Configuration case】

Case 1: Configure the name information of the snmp agent system as test3

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

OLT(config)#
```

8.14.View information about the SNMP agent system

Command syntax	OLT(config)# **show snmp-agent sys-info**
Applicable view	config view
Function Description	This command is used to view the information of the snmp proxy system.

【Configuration case】

Case 1: View the information of the OLT snmp agent system

```
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.Configure the IP address for the SNMP agent to receive alarms

Command syntax	OLT(config)# **snmp-agent trap <host-name> <ip-addr> <port> <community-name>**

Applicable view	config view
Function Description	This command is used to configure the IP address of the snmp agent to receive alarms.
<host-name>	Description information, supports 1-32 characters.
<ip-addr>	IP address for receiving alarms.
<port>	The port number for receiving alarms, the value range is 1-65535
<community-name>	Community name, supports 1-32 characters

【Configuration case】

Case 1: Configure the snmp alarm receiving address as 192.168.5.185, the host name as test, the port number as 563, and the community as public

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

OLT(config)#
```

8.16.View the information of the SNMP agent alarm receiving address

Command syntax	OLT(config)# **show snmp-agent trap**
Applicable view	config view
Function Description	This command is used to view the information about the receiving address of the snmp agent alarm.

【Configuration case】

Case 1: View the information about the receiving address of the OLT snmp agent alarm.

```
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.Configure the entity access user, authentication mode and password of the SNMP agent

Command syntax	OLT(config)# **snmp-agent usm-user v3 <user-name> <group-id> authentication-mode md5 <md5-password> privacy-mode des56 <des56-password>**
Applicable view	config view
Function Description	This command is used to configure the snmp proxy entity access user mapping to the security group, and set the authentication mode and password. The authentication mode is an optional parameter. Note: Before this, you need to create a snmp-agent based security mode group.
<user-name>	Entity access user name.
<group-id>	The ID of the group based on the user's security mode.
<md5-password>	User authentication password, password length is 8-64 characters
<des56-password>	56-bit DES encrypted password, password length is 8-64 characters

【Configuration case】

Case 1: Configure the snmp-agent entity access group as test1, map the group test based on the security mode, the authentication mode is md5 and the password is 12345678 and the authentication mode is des56, and the password is 111111111.

```
OLT(config)# snmp-agent usm-user v3 test1 test authentication-mode md5 12345678 privacy-mode des56 111111111

OLT(config)#
```

8.18.View SNMP Agent Entity Access Users

Command syntax	OLT(config)# **show snmp-agent usm-user [<user>]**
Applicable view	config view
Function Description	This command is used to view the access user information of the snmp proxy entity.
<user>	Entity access user name, supports 1-64 characters. This parameter is optional. Without this parameter, it means to view all entities to access user information. Adding this parameter means viewing the specified entity access user information.

【Configuration case】

Case 1: View all entity access user information of the OLT snmp agent.

```
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)#
```

Case 2: View the information about the entity access user test of the OLT snmp agent.

```
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.VLAN

9.1.Basic configuration of VLAN

9.1.1.Create VLAN

Command syntax	OLT(config)# **vlan < vlan -list > _**
Applicable view	config view
Function Description	This command is used to create single or bulk VLANs.
<vlan- list >	Created vlan id , the value can be 1-4094

【Configuration case】

Case 1: Create vlan 100.

```
OLT(config)# vlan 100
Create vlan successfully: 100

OLT(config)#
```

Case 2: Create vlans 110-120 in batches.

```
OLT(config)# vlan 110-120
Create vlan successfully: 110-120

OLT(config)#
```

9.1.2.delete VLAN

Command syntax	OLT(config)# **no vlan < vlan - list >**
Applicable view	config view
Function Description	This command is used to delete a single or bulk VLAN.
<vlan- list >	Deleted vlan id , the value can be 1- 4094

【Configuration case】

Case 1: Delete vlan 100.

```
OLT(config)# no vlan 100
Delete vlan successfully: 100

OLT(config)#
```

Case 2: Batch delete vlan 110-120.

```
OLT(config)# no vlan 110-120
Delete vlan successfully: 110-120

OLT(config)#
```

9.1.3.Configure VLAN name

Command syntax	OLT(config)# **vlan - name < vlan -list > <vlan-name>**
Applicable view	config view

Function Description	This command is used to configure the name of the vlan .
<vlan- list >	Created vlan id , the value can be 1-4094
<vlan- name >	The name of the Vlan, the length is 1-17

【Configuration case】

Case 1: Configure the name of vlan 100 as test.

```
OLT(config)# vlan-name 100 test

OLT(config)#
```

Case 2: batch configuration vlan 100-120 named test.

```
OLT(config)# vlan-name 100-120 test

OLT(config)#
```

9.1.4.delete VLAN name

Command syntax	OLT(config)# **no vlan-name <vlan-list>**
Applicable view	config view
Function Description	This command is used to clear the name of the vlan .
<vlan-list>	Clear the vlan id of the vlan name , the value can be 1- 4094

【Configuration case】

Case 1: Clear the name of vlan 100.

```
OLT(config)# no vlan-name 100

OLT(config)#
```

Case 2: Bulk clear the names of vlan 110-120.

```
OLT(config)# no vlan-name 110-120

OLT(config)#
```

9.1.5.View VLAN information

Command syntax	OLT(config)# **show vlan {<vlan-ID>|<all>}**

Applicable view	config view
Function Description	This command is used to view the information of vlan.
<vlan- ID >	View the vlan id of the vlan information, the value can be 1-4094

【Configuration case】

Case 1: View the information of vlan 100.

```
OLT(config)# show vlan 100
---------------------------------------------- ----------------------------------------
Vlan-ID: 100 Vlan-Name: vlan100
Untagged-Ports: -
Tagged-Ports: -
---------------------------------------------- ----------------------------------------

OLT(config)#
```

Case 2: View the information of all vlans of the OLT.

```
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: -
---------------------------------------------- ----------------------------------------
Vlan-ID: 100 Vlan-Name: vlan100
Untagged-Ports: -
Tagged-Ports: -
---------------------------------------------- ----------------------------------------
Vlan-ID: 101 Vlan-Name: vlan101
Untagged-Ports:
ge0/0/1
Tagged-Ports: -
---------------------------------------------- ----------------------------------------
Vlan-ID: 102 Vlan-Name: vlan102
Untagged-Ports: -
```

```
Tagged-Ports: -
---------- ----------
Vlan-ID: 103 Vlan-Name: vlan103
Untagged-Ports: -
Tagged-Ports: -
---------- ----------
Vlan-ID: 104 Vlan-Name: vlan104
Untagged-Ports: -
Tagged-Ports: -
---------- ----------
Vlan-ID: 105 Vlan-Name: vlan105
Untagged-Ports: -
Tagged-Ports: -
---------- ----------
Vlan-ID: 200 Vlan-Name: vlan200
Untagged-Ports: -
Tagged-Ports: -
---------- ----------
Vlan-ID: 304 Vlan-Name: vlan304
Untagged-Ports: -
Tagged-Ports: -
---------- ----------

OLT(config)#
```

9.1.6.View vlan conversion list information

Command syntax	OLT(config)# **show vlan translate all**
Applicable view	config view
Function Description	Use this command to view vlan conversion list information.

【Configuration case】

Case 1: View the VLAN translation list information.

```
OLT(config)# show vlan translate all
Error: There is no vlan translate entry!

OLT(config)#
```

9.2.VLAN policy

9.2.1.VLAN based on MAC address

Command syntax	OLT(config)# **mac-vlan <mac-address> <vlan-id> <priority>**
Applicable view	config view
Function Description	This command is used to add mac-vlan. When the packet entering the OLT does not carry a tag, if the destination address is the same as the configured mac address, the packet will be tagged with the corresponding vlan and priority.
<mac-address>	mac address, the format is xx.xx.xx.xx.xx.xx.
<vlan-id>	VLAN id, value range: 1-4094.
<priority>	vlan priority.

【Configuration case】

Case 1: Create a mac-vlan, where the mac address is 13:20:12:08:97:23, the vlan is 100, and the priority is 0

```
OLT(config)# mac-vlan 13:20:12:08:97:23 100 0

OLT(config)#
```

9.2.2.View MAC-VLAN entries

Command syntax	OLT(config)# **show mac-vlan all**
Applicable view	config view
Function Description	This command is used to view all mac-vlan entries.

【Configuration case】

Case 1: View all mac-vlan entries

```
OLT(config)# show mac-vlan all
---------------------------------------------- ---------------------------------------
index mac-address vlan priority
1 13:20:12:08:97:23 100 0
---------------------------------------------- ---------------------------------------

OLT(config)#
```

9.2.3.Delete MAC-VLAN entry

Command syntax	OLT(config)# **no mac-vlan {<mac-address> | <all>}**
Applicable view	config view
Function Description	This command is used to remove the mac-vlan entry
<mac-address>	mac address, the format is xx.xx.xx.xx.xx.xx.
<all>	all mac-vlan entries

【Configuration case】

Case 1: Delete the mac-vlan entry with the mac address 13:20:12:08:97:23

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

OLT(config)#
```

Case 2: Remove all mac-vlan entries

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

OLT(config)#
```

9.2.4.VLAN based on IP address

Command syntax	OLT(config)# **ip-subnet- vlan <ip-addr> { <length-mask>|<mask>} <vlan-id> <priority>**
Applicable view	config view
Function Description	This command is used to add ip-subnet-vlan. When the packets entering the OLT are without tags, if the destination address is the same as the configured IP address, the packets without tags will be marked with the corresponding vlan and the priority tag.
<ip-addr>	IP address in the format xxxx.
<length-mask|mask>	length-mask: subnet mask length, the value range is 0-32 mask: subnet mask, the format is xxxx
<vlan-id>	VLAN id, value range: 1-4094.
<priority>	priority.

【Configuration case】

Case 1: Create ip-subnet-vlan, where the IP address is 192.168.5.34, the subnet mask length is 24, the vlan is 100, and the priority is 0

```
OLT(config)# ip-subnet-vlan 192.168.5.34 24 100 0

OLT(config)#
```

9.2.5.View IP-Subnet-VLAN entries

Command syntax	OLT(config)# **show ip-subnet-vlan all**
Applicable view	config view
Function Description	This command is used to view all ip-subnet-vlan entries.

【Configuration case】

Case 1: View all ip-subnet-vlan entries

```
OLT(config)# show ip-subnet-vlan all
------------------------------------------------ ---------------------------------------
ip-address netmask vlan priority
192.168.5.0 255.255.255.0 100 0
------------------------------------------------ ---------------------------------------

OLT(config)#
```

9.2.6.Delete IP-Subnet-VLAN entry

Command syntax	OLT(config)# **no ip-subnet-vlan <ip-addr> {<length-mask>|<mask>}**
Applicable view	config view
Function Description	This command is used to delete the ip-subnet-vlan entry
<ip-addr>	IP address in the format xxxx.
<length-mask|mask>	length-mask: subnet mask length, the value range is 0-32 mask: subnet mask, the format is xxxx

【Configuration case】

Case 1: Delete the IP-Subnet-VLAN entry with IP address 192.168.5.34 and subnet mask length 24

```
OLT(config)# no ip-subnet-vlan 192.168.5.34 24
```

```
OLT(config)#
```

9.2.7.VLAN based on protocol

Command syntax	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>**
Applicable view	config view
Function Description	This command is used to create protocol-vlan. The created protocol-vlan can be used to bind to each ge port, pon port and xge port. By configuring a protocol-based VLAN, the switch can analyze the packets received on the port without VLAN tags, and match the packets with the protocol template set by the user according to different encapsulation formats and values of special fields. The corresponding VLAN Tag is added to the packets of the specified protocol to realize the automatic distribution of the data belonging to the specified protocol to the corresponding VLAN for transmission. The no command is used to delete the specified protocol-vlan entry.
<protocol-index>	protocol-vlan index, the value range is 1-16
<parameter>	at: appletalk protocol ipv4: IPv4 protocol ipv6: IPv6 protocol ipx: IPx protocol ethernetii: Ethernet protocol type snap: snap protocol type llc: llc protocol type raw: raw protocol type etype: type
<ethertype id>	Ethernet type number, the value range and format are 0x0001-0xffff.

【Configuration case】

Case 1: Create an index 1, the mode is Ethernet protocol, bind the GE1 port to index 1, and add it to vlan100.

```
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)#
```

9.2.8.View Protocol-VLAN entries

Command syntax	OLT(config)# **show protocol-vlan all**
Applicable view	config view
Function Description	This command is used to view all protocol-vlan entries.

【Configuration case】

Case 1: View all protocol-vlan entries.

```
OLT(config)# show protocol-vlan all
------------------------------------------------ ---------------------------------------
index frame ethtype port vlan id
1 ethii unknow (0x8100)
------------------------------------------------ ---------------------------------------

OLT(config)#
```

9.2.9.Delete the Protocol-VLAN entry

Command syntax	OLT(config)# **no protocol-vlan <protocol-index>**
Applicable view	config view
Function Description	This command is used to delete a protocol-vlan entry.

【Configuration case】

Case 1: Delete the protocol-vlan entry with protocol index 1.

```
OLT(config)# no protocol-vlan 1

OLT(config)#
```

9.3.VLAN service isolation

9.4.VLAN-based service user-bridge configuration

Command syntax	OLT(config)# **vlan VLAN-LIST user-bridge (enable|disable)**
Applicable view	config view
Function Description	This function is used for non-transparent virtual ports. When enabled, the non-transparent virtual port is added to the interworking group to realize the interworking of services in the same VLAN. When disabled, non-transparent virtual ports are added to the isolation group to isolate services within the same VLAN.
<port-list>	Specify the port number, such as 1, 2.
enable	Enable
disable	de-enable

【Configuration case】

Case 1: Configure the onu under the pon port in vlan100 to communicate with each other

```
OLT(config)# vlan 100 user-bridge enable
Set vlan user-bridge successfully:
100
OLT(config)#
```

9.4.1.Port-based service user-bridge configuration

Command syntax	OLT(config-interface-ge-0/0)# **vlan transparent <port-list> user-bridge (enable|disable)**
Applicable view	GPON port view
Function Description	This function is used for the virtual port of transparent transmission. When enabled, the transparent virtual port is added to the interworking group to realize the interworking of services within the same PON port and within the VLAN. When it is disabled, the transparent virtual port is added to the isolation group to realize the isolation of services from the same PON port and the same VLAN.
<port-list>	Specify the port number, such as 1, 2.
enable	Enable
disable	de-enable

【Configuration case】

Case 1: Configure business interworking with vlan under pon4 port

```
OLT(config-interface-gpon-0/0)# vlan transparent 4 user-bridge enable

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

10.IPv4

10.1.Create and delete vlanif interfaces

Command syntax	OLT(config)# **interface vlanif vlan-id** OLT(config)# **no interface vlanif vlan-id**
Applicable view	config view
Function Description	The interface vlanif command line is used to create a VLAN interface or enter the VLAN interface view. It must be created when a VLAN exists. The no interface vlanif command line is used to delete a VLAN interface.
vlan-id	VLAN interface id, the value range is 1-4094

【Configuration case】

Case 1: Create VLAN interface 2 .

```
OLT (config) # interface vlan-interface 2

OLT(config-interface-vlanif-2)#
```

10.2.Configure OLT vlanif interface description

Command syntax	OLT(config-interface-vlanif-2)# **description text** OLT(config-interface-vlanif-2)# **no description**
Applicable view	Interface view
Function Description	The description command line is used to configure description information. The no description command line is used to delete description information.
text	VLAN interface description string (excluding spaces), the value range is 1 to 128 characters

【Configuration case】

Case 1: Configure the description information of the VLAN interface .

```
OLT(config)# interface vlan-interface 2
OLT(config-interface-vlanif-2)# description vlanif2_to_floor2
```

10.3.Configure the IP address of the OLT vlanif interface, loopback port, and network management port

Command syntax	OLT(config-interface-vlanif-2)# **ip address {ip-address ip-mlen | ip-mask}** OLT(config-interface-vlanif-2)# **no ip address**
Applicable view	Interface view
Function Description	The ip address command line is used to configure the IP address and mask or mask length of the interface. The no ip address command line is used to delete the IP of the interface and the corresponding mask or mask length.
ip-address	IP address of the loopback interface, in dotted decimal format
ip-mlen	Subnet mask length, that is, the number of consecutive "1"s in the mask, ranging from 0 to 32
ip-mask	Subnet mask corresponding to the interface IP address, in dotted decimal format

【Configuration case】

Case 1: Configure the interface IP and mask length .

```
OLT(config)# interface vlan-interface 2
OLT(config-interface-vlanif-2)# ip address 10.11.2.47 16
```

10.4.View OLT vlanif interface information

Command syntax	OLT(config)# **show interface vlanif [vlan-id]**
Applicable view	config view
Function Description	If the show interface vlanif command line is filled with VLAN ID number, it is used to display the detailed information of the specified VLAN interface, if not, it is used to display the detailed information of all VLAN interfaces. The show interface vlanif brief command line is used to display brief information of all VLAN interfaces.

vlan-id	VLAN interface id, the value range is 1-4094

【Configuration case】

Case 1: Display all VLAN interface information .

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

Vlanif100 current state: DOWN
Line protocol current state: DOWN
Description: eth1.100 Interface
The Maximum Transmit Unit is 1500 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
Hardware Address is E0:67:B3:00:00:02
0 input packets (0 multicast), 0 bytes, 0 dropped
0 input errors, 0 length, 0 overrun, 0 CRC, 0 frame
0 fifo, 0 missed
0 output packets, 0 bytes, 0 dropped
0 output errors, 0 aborted, 0 carrier, 0 fifo, 0 heartbeat
      0 windows, 0 collisions

OLT(config)#
```

11.IPv6

11.1.IPv6 configuration

11.1.1.Enabling and disabling IPv6

Command syntax	OLT(config-interface-vlanif-100)# **ipv6 {enable|disable}**
Applicable view	Interface view
Function Description	Use the ipv6 enable command to enable IPv6 on an interface. Only when IPv6 is enabled can IPv6 addresses be configured. Use the ipv6 disable command to enable IPv6 on an interface. If IPv6 is disabled on an interface, IPv6-related configurations on the interface will be cleared, including all manually configured IPv6 addresses (excluding automatically obtained link-local addresses). Static NDP, dynamic NDP. By default, the interface is disabled by default.
enable|disable	enable: enable IPv6 disable: disable IPv6

【Configuration case】

Case 1: Enable IPv6 on interface vlanif 100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ipv6 enable
```

11.1.2.Configure the IPv6 address of the vlanif interface, loopback interface, and network management interface

Command syntax	OLT(config-interface-vlanif-100)# **ipv6 address ipv6-address/prefix-length** OLT(config-interface-vlanif-100)# **ipv6 address ipv6-address prefix-length** OLT(config-interface-vlanif-100)# **no ipv6 address ipv6-address/prefix-length** OLT(config-interface-vlanif-100)# **no ipv6 address ipv6-address prefix-length** OLT(config-interface-vlanif-100)# **no ipv6 address all**
Applicable view	Interface view
Function Description	Use the ipv6 address command to configure the IPv6 address on the specified interface. Use the no ipv6 address command to delete the IPv6 address on the specified interface. no ipv6 address all is used to delete all IPv6 addresses under the specified interface.
ipv6-address	The format is X:X::X:X The total length is 128 bits, usually divided into 8 groups, each group is in the form of 4 hexadecimal numbers (for example: 3ffe::123:3)
prefix-length	Specifies the prefix length of the IPv6 address. The prefix length of the loopback interface is 128, and the prefix length of the vlanif interface is 1~(128-2)

【Configuration case】

Case 1: Configure the IPv6 address of interface vlanif100 as 3ffe::123:1/48 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ipv6 enable
OLT(config-interface-vlanif-100)# ipv6 address 3ffe::123:1/48
```

11.1.3.Configure the link-local address of the vlanif interface,

loopback port, and network management port

Command syntax	OLT(config-interface-vlanif-100)# **ipv6 address ipv6-address link-local** OLT(config-interface-vlanif-100)# **no ipv6 address ipv6-address link-local**
Applicable view	Interface view
Function Description	The ipv6 address ipv6-address link-local command is used to manually configure the link-local address on the specified interface. The manually configured address will overwrite the automatically obtained link-local address. Use the no ipv6 address command to delete the manually configured link-local address on the specified interface. After the manually-configured link-local address is deleted, the interface will automatically obtain a link-local address again. By default, the interface status is up, and a link-local address is automatically configured for the interface by default. The default manually configured link-local address prefix is 64 bits.
ipv6-address	The format is X:X::X:X The total length is 128 bits, usually divided into 8 groups, each group is in the form of 4 hexadecimal numbers (eg: 3ffe::123:3), the prefix must match FE80: :/10.

【Configuration case】

Case 1: Configure the link-local address fe80::345:1 of interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ipv6 enable
OLT(config-interface-vlanif-100)# ipv6 address fe80::345:1 link-local
```

11.1.4.View IPv6-related interface information

Command syntax	OLT(config)# **show ipv6 interface brief**
Applicable view	config view
Function Description	This command is used to view brief information of all IPv6 related interfaces.

【Configuration case】

Case 1: View brief information about all current IPv6-related interfaces in the config view .

```
OLT(config)# show ipv6 interface brief
Interface IPv6 Address/Prefixlen Status Protocol Description
```

```
---------------------------------------------- --------------------------------
Mgmt0/0 fe80::e267:b3ff:fe00:152/64 UP UP --
InLoop0 ::1/128 UP UP --
Vlanif100 2001::1:1/64 DOWN DOWN --
Vlanif200 456::1:1/48 DOWN DOWN --
Vlanif500 Unassigned DOWN DOWN --
```

11.2.NDP configuration

11.2.1.Configure and remove NDP

Command syntax	OLT(config)# **ndp static ipv6-addr mac-addr vid vlan-id port port-type F/S/P** OLT(config)# **no ndp static {ipv6-addr | all}**
Applicable view	config view
Function Description	Use the ndp static command to configure static NDP entries in the NDP mapping table. Use the no ndp static ipv6-addr command to delete the static NDP entry of the specified IPv6 address. Use the no ndp static all command to delete all static NDP entries. have to be aware of is: The static NDP entry is always valid during the normal working hours of the device. When the VLAN interface corresponding to the NDP entry of a device is deleted or the IPv6 address is modified, the corresponding static NDP entry will be deleted. The parameter vlan-id is used to specify the VLAN corresponding to the NDP entry. The vlan-id must be the ID of the VLAN that has been created by the user, and the port specified after the vlan-id parameter must belong to this VLAN. The VLAN interface corresponding to the VLAN must have been created. When the parameters vlan-id and ipv6-address are specified, the IPv6 address of the VLAN interface corresponding to the parameter vlan-id must belong to the same network segment as the IPv6 address specified by the parameter ipv6-address (it is sufficient to match any ipv6 address).
ipv6-addr	IPv6 address of the NDP entry
mac-addr	The MAC address part of the NDP entry, in the format H:H:H:H:H:H
vlan-id	VLAN to which the static NDP entry belongs. The value ranges from 1 to 4094.

port-type	Port type, including gpon|ge|lag|xge type
F/S/P	Port number (eg 0/0/1)

【Configuration case】

Case 1: Configure the IPv6 address as 2001::1:5, the corresponding MAC address is 12:34:45:56:67:78, and the port ge 0/0/2 belongs to VLAN 100 .

```
OLT(config)# ndp static 2001::1:5 12:34:45:56:67:78 vid 100 port ge 0/0/2

OLT(config)#
```

11.2.2.Clear dynamic NDP entries

Command syntax	OLT(config)# **reset ndp dynamic all** OLT(config)# **reset ndp dynamic ipv6 ipv6-address** OLT(config)# **reset ndp dynamic port port-type F/S/P** OLT(config)# **reset ndp dynamic vlanif vlan-id**
Applicable view	config view
Function Description	Use the reset ndpdynamic all command to clear all dynamic ndp. The reset ndpdynamic ipv6 ipv6-address command can be used to clear the dynamic ndp of the specified IPv6 address. reset ndpdynamic port port-type F/S/P is used to clear the dynamic ndp on the specified port. reset ndpdynamic vlanif vlan-id is used to clear the dynamic ndp on the specified vlanif.
ipv6-address	IPv6 address of the NDP entry
vlan-id	VLAN to which the static NDP entry belongs. The value ranges from 1 to 4094.
port-type	Port type, including gpon|ge|lag|xge type
F/S/P	Port number (eg 0/0/1)

【Configuration case】

Case 1: Clear all dynamic ndp .

```
OLT(config)# reset ndp dynamic all

OLT(config)#
```

11.2.3.View NDP entries

Command syntax	OLT(config)# **show ndp { all | dynamic | static}** OLT(config)# **show ndp vlanif vlan-id**
Applicable view	config view
Function Description	The show ndp all command line is used to display all ndp entries. The show ndp dynamic command line is used to display all dynamic ndp entries. The show ndp static command line is used to display all static ndp entries. The show arp vlanif vlan-id command line is used to display the ndp entry of the specified vlanif.
all	All NDP entries
vlan-id	VLAN to which the static NDP entry belongs. The value ranges from 1 to 4094.
static	Static NDP entry
dynamic	Dynamic NDP entry

【Configuration case】

Case 1: View all ndp entries on the device .

```
OLT(config)# show ndp all

ndp entry max num: 1024
ndp entry current: 3
IPv6 address Mac address VLAN F/S/P Type AgeTime
------------------------------------------------ --------------------------------
2001::1:5 12:34:45:56:67:78 100 ge0/0/2 Static --
2001::1:111 00:68:EB:A4:35:DB 100 ge0/0/2 Dynamic 547
fe80::dd2:3f8a:fd5f:73c0 00:68:EB:A4:35:DB 100 ge0/0/2 Dynamic 548

OLT(config)#
```

11.2.4.Configure NDP aging time

Command syntax	OLT(config)# **ndp age-time value** OLT(config)# **no ndp age-time**
Applicable view	config view
Function Description	Use the ndp age-time command to configure the NDP aging time. Use the no ndp age-time command to restore the default aging time of NDP.

	The default aging time is 600 seconds (10 minutes).
value	NDP aging time, unit: second, range <60-3600>

【Configuration case】

Case 1: Configure the ndp aging time to 10 minutes .

```
OLT(config)# ndp aging-time 600

OLT(config)#
```

11.2.5.View NDP history information

Command syntax	OLT(debug)# **show ndp history**
Applicable view	debug view
Function Description	This command is used to view the history information of NDP

【Configuration case】

Case 1: View ndp history information .

```
OLT(debug)# show ndp history

IPv6 address Mac address Vlan Port Operate Time
fe80::d8b2:1e61:b858:d388 00:E0:4D:71:7A:FE 200 ge0/0/3 Add 2000-03-20 10:30:31
fe80::7c56:7fc3:e64e:ec45 B4:A9:FC:A8:17:3C 200 ge0/0/3 Add 2000-03-20 10:30:32
fe80::812a:d8fd:2da2:a96e 18:47:3D:EF:09:AF 200 ge0/0/3 Add 2000-03-20 10:30:44
fe80::b432:e401:3c31:40ce A0:8C:FD:DA:63:BB 200 ge0/0/3 Add 2000-03-20 10:31:02
fe80::3108:ad2e:febc:8fa0 18:47:3D:EC:0A:0F 200 ge0/0/3 Del/aged 2000-03-20 10:40:11
fe80::84b9:2518:c010:2982 A4:97:B1:C5:D4:19 200 ge0/0/3 Add 2000-03-20 10:41:09
fe80::a4ed:662f:7fa4:95f9 00:E0:4D:71:7E:47 200 ge0/0/3 Del/aged 2000-03-20 10:41:14
fe80::a4ed:662f:7fa4:95f9 00:E0:4D:71:7E:47 200 ge0/0/3 Add 2000-03-20 10:50:37
fe80::a4ed:662f:7fa4:95f9 00:E0:4D:71:7E:47 200 ge0/0/3 Del/aged 2000-03-20 11:00:48
fe80::520f:f5ff:fe12:ae10 50:0F:F5:12:AE:10 200 ge0/0/3 Add 2000-03-20 11:03:11
```

11.3.IPv6 routing

11.3.1.Ping command

Command syntax	OLT(config)# **ping DESTINATION**
Applicable view	config view or enable view
Function Description	The ping command is used to test the network reachability between the device and the target host.
DESTINATION	Destination IPv6 address

【Configuration case】

Case 1: Ping the target IPv6 address 2001::1:6/64 .

```
OLT(config)# ping 2001::1:6
PING 2001::1:6 (2001::1:6): 56 data bytes
64 bytes from 2001::1:6: seq=0 ttl=64 time=9.072 ms
64 bytes from 2001::1:6: seq=1 ttl=64 time=1.258 ms
64 bytes from 2001::1:6: seq=2 ttl=64 time=1.262 ms
64 bytes from 2001::1:6: seq=3 ttl=64 time=1.357 ms

--- 2001::1:6 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 1.258/3.237/9.072 ms
```

11.3.2.Configure static routes

Command syntax	OLT(config)# **ipv6 route {ipv6-addr/prefixlen } {nexthop |null0} [preference]** OLT(config)# **no ipv6 route {ipv6-addr/prefixlen } {nexthop |null0}[preference]**
Applicable view	config view
Function Description	Use the ipv6 route command to configure static routes. Use the no ipv6 route command to delete the static route configuration.
ipv6-addr	The destination IPv6 address of the static route
prefixlen	The prefix length of the IPv6 address, in dotted decimal format
nexthop	Specifies the IPv6 address of the next hop of the route
preference	Specifies the priority of the static route. The value ranges from 1 to 255. The default value is 10.

【Configuration case】

Case 1: Configure a static route, the destination address is 2001::1:6/64, and the next hop is

3ffe::123:3 .

```
OLT(config)# ipv6 route 2001::1:5/64 3ffe::123:3

OLT(config)#
```

11.3.3.View routing information

Command syntax	OLT(config)# **show ipv6 route [verbose]**
Applicable view	config view
Function Description	The show ipv6 route command is used to display the summary information of the currently active routes in the routing table. This command displays the information of the optimal routing table in summary form, each line represents a route, and the content includes: destination address/prefix length, protocol, priority, metric value, next hop, and outgoing interface. The show ipv6 route verbose command is used to display all the detailed information of the routing table. This command outputs the statistics of the entire routing table, and then outputs the detailed description of each route in turn. Use this command to display all current routes, including active and inactive routes.
verbose	Displays detailed information about all routing tables, including routes in inactive and active states. Without this parameter, only active routes will be displayed.

【Configuration case】

Case 1: Display summary information of currently active routes in the routing table .

```
OLT(config)# show ipv6 route
Routing Table : Public
Route Flags: R - relay, D - download to fib
Destination/Prefixlen Proto Pre Cost Flags NextHop Interface
------------------------------------------------ ------------------------------------------------ --
::1/128 direct 0 0 D ::1 InLoop0
456::/48 direct 0 0 D 456::1:1 Vlanif200
456::1:1/128 direct 0 0 D ::1 Vlanif200
2001::/64 static 63 0 3ffe::123:1 Vlanif100
2001::/64 static 10 0 3ffe::123:1 Vlanif100
2001::/64 direct 0 0 D 2001::1:1 Vlanif100
2001::1:1/128 direct 0 0 D ::1 Vlanif100
3ffe::/48 direct 0 0 D 3ffe::123:1 Vlanif100
3ffe::123:1/128 direct 0 0 D ::1 Vlanif100
```

```
fe80::/10 direct 0 0 D ::

OLT(config)#
```

11.3.4.View routing information by routing type

Command syntax	OLT(config)# **show ipv6 route protocol l < protocol > [verbose]**
Applicable view	config view
Function Description	The show ipv6 route protocol <protocol> command is used to display the valid routing information of the specified protocol. The show ipv6 route protocol <protocol> verbose command is used to display all route details of the specified protocol.
protocol	Specify the protocol type, including direct, ospf6, ripng, static, bgp
verbose	Displays details of routes in active and inactive states. If this parameter is not used, all route summary information is displayed

【Configuration case】

Case 1: Display summary information of all directly connected routes .

```
OLT(config)# show ipv6 route protocol direct
Route Flags: R - relay, D - download to fib
Destination/Prefixlen Proto Pre Cost Flags NextHop Interface
------------------------------------------------ ------------------------------------------------ --
::1/128 direct 0 0 D ::1 InLoop0
300::/64 direct 0 0 D 300::1 Vlanif300
300::1/128 direct 0 0 D ::1 Vlanif300
400::/64 direct 0 0 D 400::1 Vlanif600
400::1/128 direct 0 0 D ::1 Vlanif600
fe80::/10 direct 0 0 D ::
OLT(config)#
```

12.ARP configuration

12.1.Function configuration of OLT ARP

12.1.1.Clear dynamic ARP entries

Command syntax	OLT(config)# **reset arp dynamic all** OLT(config)# **reset arp dynamic ip ip-address** OLT(config)# **reset arp dynamic port port-type F/S/P**

	OLT(config)# **reset arp dynamic vlanif vlan-id**
Applicable view	config view
Function Description	Use the reset arp dynamic all command to clear all dynamic arps. The reset arp dynamic ip ip-address command can be used to clear the dynamic arp of the specified IP address. reset arp dynamic port port-type port-num is used to clear the dynamic arp on the specified port. reset arp dynamic vlanif vlan-id is used to clear the dynamic arp on the specified vlanif.
ip-addr	IP address of the ARP entry, in dotted decimal format
vlan-id	VLAN to which the static ARP entry belongs. The value ranges from 1 to 4094.
port-type	Port type, including gpon|ge|lag|xge type
F/S/P	Port number (eg 0/0/1)

【Configuration case】

Case 1: Clear all dynamic arps .

```
OLT(config)# reset arp dynamic all

OLT(config)#
```

12.1.2.Configuring and Deleting Static ARP for OLT

Command syntax	OLT(config)# **arp static ip-addr mac-addr vid vlan-id port port-type F/S/P** OLT(config)# **no arp static {ip-addr | all}**
Applicable view	config view
Function Description	Use the arp static command to configure static ARP entries in the ARP mapping table. Use the no arp static ip-addr command to delete static ARP entries of the specified IP address. Use the no arp static all command to delete all static ARP entries. have to be aware of is: The static ARP entry is always valid during the normal working hours of the device. When the VLAN interface corresponding to the ARP entry of a device is deleted or the IP address is changed, the corresponding static ARP entry will be deleted. The parameter vlan-id is used to specify the VLAN corresponding to the ARP entry. The vlan-id must be the ID of the VLAN that has

	been created by the user, and the port specified after the vlan-id parameter must belong to this VLAN. The VLAN interface corresponding to the VLAN must have been created. When the parameters vlan-id and ip-address are specified, the IP address of the VLAN interface corresponding to the parameter vlan-id must belong to the same network segment as the IP address specified by the parameter ip-address.
ip-addr	IP address of the ARP entry, in dotted decimal format
mac-addr	The MAC address part of the ARP entry, the format is H:H:H:H:H:H
vlan-id	VLAN to which the static ARP entry belongs. The value ranges from 1 to 4094.
port-type	Port type, including gpon|ge|lag|xge type
F/S/P	Port number (eg 0/0/1)

【Configuration case】

Case 1: Configure the IP address as 10.11.100.199 and the corresponding MAC address as 01:02:03:04:05:06, which belongs to the port ge 0/0/2 of VLAN 2 .

```
OLT(config)# arp static 10.11.100.199 01:02:03:04:05:06 vid 2 port ge 0/0/2
```

12.1.3.View ARP entries

Command syntax	OLT(config)# **show arp { all | dynamic | static }** OLT(config)# **show arp vlanif vlan-id**
Applicable view	config view
Function Description	The show arp all command line is used to display all arp entries. The show arp dynamic command line is used to display all dynamic arp entries. The show arp static command line is used to display all static arp entries. The show arp vlanif vlan-id command line is used to display the arp entries of the specified vlanif.
vlan-id	VLAN to which the static ARP entry belongs. The value ranges from 1 to 4094.

【Configuration case】

Case 1: View all arp entries on the device .

```
OLT(config)# show arp all
arp entry max num: 2048
```

```
arp entry current: 2
IP address Mac address VLAN F/S/P Type AgeTime
101.0.0.3 E0:67:B3:00:00:02 300 ge0/0/1 Dynamic 569
101.0.0.6 E0:67:B3:00:00:09 300 ge0/0/1 Static --
```

12.1.4.Configuring the OLT ARP Aging Time

Command syntax	OLT(config)# **arp age time set value** OLT(config)# **no arp age time set**
Applicable view	config view
Function Description	Use the arp age time set command to configure the ARP aging time. Use the no arp age time set command to restore the default ARP aging time. The default aging time is 600 seconds (10 minutes). Description of change: Old command line arp age time set <value> vlanif <vlanid>.
vlan-id	VLAN to which the static ARP entry belongs. The value ranges from 1 to 4094.

【Configuration case】

Case 1: Configure the arp aging time to 10 minutes .

```
OLT(config)# arp age time set 600

OLT(config)#
```

12.1.5.Check the OLT ARP aging time

Command syntax	OLT(config)# **show arp age time**
Applicable view	config view
Function Description	This command is used to check the aging time of ARP.

【Configuration case】

Case 1: View the aging time of the configured arp .

```
OLT(config)# show arp age time
arp aging time: 600 s

OLT(config)#
```

12.1.6.Configuring ARP MAC Address Change Checking

Command syntax	OLT(config)# **arp mac address change check {enable | disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the ARP MAC address change check function. The default ARP MAC address change check function is disabled, that is, the ARP entry is updated when the MAC address changes.
enable|disable	enable: Enable ARP MAC address change check function disable: Disable ARP MAC address change check function

【Configuration case】

Case 1: Enable the device ARP MAC address change check function .

```
OLT(config)# arp mac address change check enable

OLT(config)#
```

12.1.7.Configuring the fast update function of ARP

Command syntax	OLT(config)# **arp quick-update {enable | disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the ARP fast update function. The ARP fast update function means that the same device can update the port and MAC corresponding to the local ARP more quickly by changing the port or MAC address under the condition that the IP remains unchanged. The default ARP fast update function is disabled.
enable|disable	enable: Enable ARP fast update function disable: Disable ARP fast update function

【Configuration case】

Case 1: Enable the fast update function of device ARP .

```
OLT(config)# arp quick-update enable

OLT(config)#
```

12.1.8.Configuring the Learning Function of Gratuitous ARP

Command	OLT(config)# **arp gratuitous arp learning {enable | disable}**

syntax	
Applicable view	config view
Function Description	This command is used to enable or disable the learning function of gratuitous ARP. The default free arp learning function is turned off.
enable|disable	enable: turn on the free arp learning function disable: disable the free arp learning function

【Configuration case】

Case 1: Enable the gratuitous ARP learning function of the device .

```
OLT(config)# arp gratuitous arp learning enable

OLT(config)#
```

12.1.9.Configuring the gratuitous ARP periodic sending function

Command syntax	OLT(config)# **arp gratuitous arp send {enable | disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the gratuitous ARP periodic sending function. The default free arp cycle sending function is disabled.
enable|disable	enable: Enable free arp cycle sending function disable: Disable the free arp cycle sending function

【Configuration case】

Case 1: Enable the free ARP periodic sending function of the device .

```
OLT(config)# arp gratuitous arp send enable

OLT(config)#
```

12.1.10.Configuring ARP Learning Restrictions on an Interface

Command syntax	OLT(config)# **arp max num set limit-vlaue vlanif vlan-id** OLT(config)# **no arp max num set vlanif vlan-id**
Applicable view	config view
Function Description	Use the arp max num set command to configure the limit of ARP entries on the specified Vlanif. Use the no arp max num set command

	to cancel the ARP entry limit on the specified vlanif. There is no limit to the number of ARP learning on the default Vlanif interface.
limit-vlaue	Limit number of ARP entries on the interface, the value range is 1-1500
vlan-id	The vlan-id of the VLAN interface to be configured, ranging from 1 to 4094

【Configuration case】

Case 1: Configure the limit number of ARP entries on the specified vlanif2 to be 100 .

```
OLT(config)# arp max num set 100 vlanif 2

OLT(config)#
```

12.1.11.View OLT ARP configuration information

Command syntax	OLT(config)# **show arp config**
Applicable view	config view
Function Description	The show arp config command line is used to display information such as ARP aging time, ARP fast update, MAC change check, gratuitous ARP learning, gratuitous ARP sending, gratuitous ARP cycle and ARP learning limit.

【Configuration case】

Case 1: View the configuration information of arp .

```
OLT(config)# show arp config

ARP entry aging-time : 70 seconds
ARP entry quick update: enable
Mac-address change check : disable
Gratuitous-arp learning : disable
Gratuitous-arp send state : disable
Gratuitous-arp send period: 2 minutes

OLT(config)#
```

12.1.12.Configuring the proxy function of ARP on an interface

Command	OLT(config)# **arp proxy {enable | disable} vlanif vlan-id**

syntax	OLT(config)# **arp inner-sub-vlan-proxy {enable | disable} vlanif vlan-id**
Applicable view	config view
Function Description	The arp proxy {enable | disable} vlanif vlanid command configures and deletes the cross-VLAN ARP proxy function on the specified Vlanif. The arp inner-sub-vlan-proxy {enable | disable} vlanif vlanid command configures and deletes the ARP proxy function in the VLAN on the specified Vlanif. The intra-VLAN and inter-VLAN proxy ARP functions are disabled by default on the Vlanif interface.
enable|disable	enable: Enable the proxy function of ARP on the interface disable: Disable the proxy function of ARP on the interface
vlan-id	The vlan-id of the VLAN interface to be configured, ranging from 1 to 4094

【Configuration case】

Case 1: Configure the ARP proxy function in the VLAN on the specified Vlanif2 .

```
OLT(config)# arp inner-sub-vlan-proxy enable vlanif 2

OLT(config)#
```

12.1.13.Check the proxy function of interface ARP

Command syntax	OLT(config)# **show arp proxy state vlanif vlan-id** OLT(config)# **show arp proxy state vlanif all**
Applicable view	config view
Function Description	The show arp proxy state vlanif vlan-id command can be used to view the ARP proxy function on the specified Vlanif. The show arp proxy state vlanif all command can be used to view the ARP proxy functions on all Vlanifs on the device.
vlan-id	The vlan-id of the VLAN interface to be configured, ranging from 1 to 4094

【Configuration case】

Case 1: View the intra-VLAN and inter-VLAN proxy ARP functions of all Vlanifs on the device .

```
OLT(config)# show arp proxy state vlanif all
vlanif1 arp_proxy: disable inner_sub_vlan_arp_proxy: disable
vlanif2 arp_proxy: disable inner_sub_vlan_arp_proxy: enable
```

```
vlanif3 arp_proxy: disable inner_sub_vlan_arp_proxy: disable
OLT(config)#
```

12.2.OLT ARP detection function configuration

12.2.1.Configuring ARP Inspection

Command syntax	OLT(config)# **arp detect {enable|disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the ARP detection function.
enable|disable	enable: Enable ARP detection function disable: Disable ARP detection function

【Configuration case】

Case 1: Enable the ARP detection function .

```
OLT(config) # arp detect enable

OLT(config) #
```

12.2.2.Configuring Trusted Ports for ARP Inspection

Command syntax	OLT(config)# **arp detect trust port port-type F/S P**
Applicable view	config view
Function Description	This command is used to configure the trusted port for ARP inspection, which can only be configured after the ARP inspection function is enabled.
port-type	Port type, including gpon|ge|xge type
F/SP	port number, e.g. 0/0 1

【Configuration case】

Case 1: Configure port ge 0/0 1 as a trusted port for ARP inspection .

```
OLT(config) # arp detect trust port ge 0/0 1

OLT(config) #
```

12.2.3.Cancel the trusted port for ARP inspection

Command syntax	OLT(config)# **no arp detect trust port port-type F/S P**
Applicable view	config view
Function Description	This command is used to cancel the trusted port of ARP detection. It can be used only after the ARP detection function is enabled.
port-type	Port type, including gpon|ge|xge type
F/SP	port number, e.g. 0/0 1

【Configuration case】

Case 1: Cancel port ge 0/0 1 as a trusted port for ARP detection .

```
OLT(config) # no arp detect trust port ge 0/0 1

OLT(config) #
```

12.2.4.Enable ARP inspection statistics

Command syntax	OLT(config)# **arp detect statistics {enable|disable}**
Applicable view	config view
Function Description	This command is used to enable or disable ARP detection statistics. It can be used only after the ARP detection function is enabled.
enable|disable	enable: Enable ARP inspection statistics disable: Disable ARP inspection statistics

【Configuration case】

Case 1: Enable ARP inspection statistics .

```
OLT(config) # arp detect statistics enable

OLT(config) #
```

12.2.5.Querying the Configuration of the ARP Inspection Function

Command syntax	OLT(config)# **show arp detect config**
Applicable view	config view
Function Description	This command is used to query the configuration of the ARP inspection function.

【Configuration case】

Case 1: Query the configuration of the ARP inspection function .

```
OLT(config)# show arp detect config

---------------------------------------------- ----------------------------------------
Switch arp detect status: enable

Switch arp detect statistics: enable

---------------------------------------------- ----------------------------------------
PORT ARP Trusted
---------------------------------------------- ----------------------------------------
ge0/0/1 No
ge0/0/2 No
ge0/0/3 No
ge0/0/4 No
xge0/0/1 No
xge0/0/2 No
pon0/0/1 No
pon0/0/2 No
pon0/0/3 No
pon0/0/4 No
pon0/0/5 No
pon0/0/6 No
pon0/0/7 No
pon0/0/8 No
---------------------------------------------- ----------------------------------------
```

12.2.6.Querying ARP Inspection Statistics

Command syntax	OLT(config)# **show arp detect statistics { brief | all | port port-type F/S P }**
Applicable view	config view
Function Description	This command is used to enable or disable ARP detection statistics. It can be used only after the ARP detection function is enabled.
port-type	Port type, including gpon|ge|xge type
F/S P	Port number (eg 0/0 1)

【Configuration case】

Case 1: Query the ARP inspection statistics of port ge 0/0 1 .

```
OLT(config)# show arp detect statistics port ge 0/0 1
---------------------------------------------- ----------------------------------------
ge0/0/1 Drop packets: 5

Latest Attack Packets Src Info:
INDEX Src-IP Src-MAC VLAN
1 101.0.0.2 E0:67:B3:00:00:05 300

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

12.2.7.Clear ARP inspection statistics

Command syntax	OLT(config)# **clear arp detect statistics { all | port port-type F/S P }**
Applicable view	config view
Function Description	This command is used to enable or disable ARP detection statistics. It can be used only after the ARP detection function is enabled.
port-type	Port type, including gpon|ge|xge type
F/S P	Port number (eg 0/0 1)

【Configuration case】

Case 1: Clear all ARP inspection statistics .

```
OLT(config) # clear arp detect statistics all

OLT(config) #
```

13.OLT uplink port configuration

13.1.Uplink port property configuration

13.1.1.Disable uplink port

Command syntax	OLT(config-interface-ge-0/0)# **shutdown <port-list>**

Applicable view	GE View
Function Description	This command is used to disable the specified GE uplink port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.

【Configuration case】

Case 1: Disable the GE1, GE2, and GE3 uplink ports of the OLT.

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

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

Case 2: Disable the GE4 uplink port of the OLT.

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

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

13.1.2.Enable uplink port

Command syntax	OLT(config-interface-ge-0/0)# **no shutdown <port-list>**
Applicable view	GE View
Function Description	This command is used to enable the specified GE uplink port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.

【Configuration case】

Case 1: The GE1, GE2, and GE3 uplink ports of the OLT are enabled.

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

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

Case 2: Enable the GE4 uplink port of the OLT.

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

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

13.1.3.Configure the name of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **port-name <port-ID> <name>**

Applicable view	GE View
Function Description	This command is used to name the port for user management.
<port-ID>	Port number to be configured, the value range is 1-4.
<name>	The name of the port to be named.

【Configuration case】

Case 1: Name the GE1 port as test.

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

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

13.1.4.Restore the name of the uplink port to the default value

Command syntax	OLT(config-interface-ge-0/0)# **no port-name <port-ID>**
Applicable view	GE View
Function Description	This command is used to restore the port name to the default value.
<port-ID>	Port number to be configured, the value range is 1-4.

【Configuration case】

Case 1: Restore the name of the GE1 port to the default value.

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

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

13.1.5.Configuring the auto-negotiation function of the uplink electrical port

Command syntax	OLT(config-interface-ge-0/0)# **auto-neg <port-list> {enable|disable}**
Applicable view	GE View
Function Description	This command is used to enable or disable the auto-negotiation mode of the Ethernet port. When enabled, the Ethernet port automatically negotiates the port rate and duplex mode with the docking port, and the system displays auto-negotiation. In this mode,

	the maximum port rate can reach 1000M. In the case of disabling, the speed and working mode of the port are the default values of the system or the manually set values (that is, the mandatory mode).
<port-list>	List of ports to be configured, the format is 1, 2-3, 4. The uplink optical port does not support the auto-negotiation function.
enable|disable	enable: enable the auto-negotiation function of the port disable: disable the auto-negotiation function of the port

【Configuration case】

Case 1: Enable the auto-negotiation function of the GE1 uplink port of the OLT.

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

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

Case 2: Disable the auto-negotiation function of the GE1 uplink port of the OLT.

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

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

13.1.6.Configure the duplex mode of the uplink electrical port

Command syntax	OLT(config-interface-ge-0/0)# **duplex <port-list> {full|half}**
Applicable view	GE View
Function Description	This command is used to configure the duplex mode of the Ethernet port. After the configuration is successful, the Ethernet port will work in the set full-duplex or half-duplex mode. The default is duplex mode.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4. The uplink optical port does not support the configuration of duplex mode. Both optical and electrical ports are in duplex mode by default.
full|half	full: full duplex mode half: half duplex mode

【Configuration case】

Case 1: Configure the GE1 uplink port of the OLT to be in half-duplex mode.

```
OLT(config-interface-ge-0/0)# duplex 1 half

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

13.1.7.Configure the speed of the uplink electrical port

Command syntax	OLT(config-interface-ge-0/0)# **speed <port-list> {10|100}**
Applicable view	GE View
Function Description	This command is used to set the speed of the Ethernet port, so that the port works at the set speed.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4. The uplink optical port does not support rate configuration. Both optical and electrical ports are 1000M by default.
10|100	10: 10Mbs 100: 100Mbs Among them, 1000Mbs only supports auto-negotiation mode.

【Configuration case】

Case 1: Configure the GE1 uplink port of the OLT to have a rate of 100Mbs.

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

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

13.1.8.Configure the maximum frame length transmitted by the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **frame-max <port-list> <frame-max-value>**
Applicable view	GE View
Function Description	The Frame-max command is used to set the maximum frame length for port transmission. The system default value is 1518.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
<frame-max-value>	Value range: 328~12288.

【Configuration case】

Case 1: Configure the frame-max of the GE1 port to 1600.

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

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

13.1.9.Restore the default value of the maximum frame length for uplink port transmission

Command syntax	OLT(config-interface-ge -0/0)# **no frame-max <port-list>**
Applicable view	GE View
Function Description	This command is used to restore the maximum transmission frame length of the port to the system default value of 1518.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.

【Configuration case】

Case 1: Restore the maximum transmission frame length of the GE1 port to the default value of 1518.

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

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

13.2.Configuring the flow control function of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **flow-control <port-list> {enable|disable}**
Applicable view	GE View
Function Description	This command is used to enable or disable the Ethernet port flow control function .
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable|disable	enable: Enable the flow control function of the port disable: disable the flow control function of the port

【Configuration case】

Case 1: Enable the flow control function of the GE1 port of the OLT.

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

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

13.3.Configuring the Mac address learning function of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **mac-address learning port <port-list > {enable|disable}**
Applicable view	GE View
Function Description	This command is used to enable or disable the Mac address learning function of the GE uplink port.
<port-list>	Port list to be configured, the value range is 1-4, the format is 1, 2-3, 4
enable|disable	enable: Enable the Mac address learning function of the GE uplink port disable: Disable the Mac address learning function of the GE uplink port

【Configuration case】

Case 1: Enable the Mac address learning function of the GE1 port.

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

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

13.4.Uplink port mirroring function

13.4.1.Configuring uplink port mirroring

Command syntax	OLT(config-interface-ge-0/0)# **mirror src-port <src-port-id> dst-port {ge|xge <F/S/P>} {all|egress|ingress}**
Applicable view	GE View
Function Description	This command is used to configure the mirroring function of the Ethernet port. This command is used when it is necessary to copy the traffic of a port in the system to the output of other ports for traffic observation, network fault diagnosis, and data analysis. After the mirroring function of the Ethernet port is successfully set, the packets in the specified direction of the mirroring source port will be completely copied to the mirroring destination port.
<src-port-id>	Port number of the mirroring source port, ranging from 1 to 4.
ge|xge	ge: Gigabit ge uplink port xge: 10 Gigabit xge uplink port
<F/S/P>	Port number of the mirroring destination port. The value range of ge is 0/0/1 - 0/0/4, and the value range of xge is 0/0/1-0/0/2.
all|egress|ingre	all: The mirroring source port sends and receives bidirectional

ss	packets. Completely copy and output the packets received and sent by the mirroring source port to the mirroring destination port. egress: The packets sent by the mirroring source port. Completely copy and output the packets sent by the mirroring source port to the mirroring destination port. ingress: Received packets of the mirroring source port. Completely copy and output the packets received by the mirroring source port to the mirroring destination port.

【Configuration case】

Case 1: Mirror the outbound and inbound packets of the GE3 port to the GE1 port.

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

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

13.4.2.Remove the mirroring function configuration of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **no mirror src-port <src-port-id>**
Applicable view	GE View
Function Description	This command is used to remove the configuration of the mirroring function of the Ethernet port.
<src-port-id>	Port number of the mirror source port.

【Configuration case】

Case 1: Remove the configuration of the GE3 port mirroring function.

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

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

13.4.3.View the configuration information of the mirroring function of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **show mirror**
Applicable view	GE View
Function	This command is used to view the configuration information of the

Description	mirroring function of the Ethernet port.

【Configuration case】

Case 1: View the configuration information of the OLT port mirroring function.

```
OLT(config-interface-ge-0/0)#show mirror
---------------------------------------------- ------------------------------------
Destination port:ge0/0/3

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

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

13.5.Uplink port performance statistics

13.5.1.Configuring the Threshold for Uplink Port Performance Statistics

Command syntax	OLT(config-interface-ge -0/0)# **statistics port <port-list> threshold <type> <upper-threshold><lower-threshold>**
Applicable view	GE View
Function Description	This command is used to configure the threshold of the GE uplink port performance statistics function.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
<type-ID>	The value can be 1-64, where: 1:rx-octets: bytes of the received message 2:rx-frames: the frame of the received message 3:rx-bcasts: received broadcast messages 4:rx-mcasts: Received multicast packets 5: rx-64octets: Received packets with a frame length of 64 bytes 6:rx-65to127octets: Received packets with a frame length of 65-127 bytes 7:rx-128to255octets: Received packets with a frame length of 128-255 bytes 8:rx-256to511octets: Received packets with a frame length of 256-511 bytes 9:rx-512to1023octets: Received packets with a frame length of 512-1023 bytes

	10:rx-1024to1518octets: Received packets with a frame length of 1024-1518 bytes 13:rx-oversizes: Packets with too long messages when receiving 20:rx-discards: Packets discarded when receiving 23:tx-octets: bytes of the sent message 24:tx-frames: frames sent 25:tx-bcasts: broadcast packets sent 26:tx-mcasts: multicast packets sent 27: tx-64octets: packets with a frame length of 64 bytes sent 28:tx-65to127octets: packets with a frame length of 65-127 bytes sent 29:tx-128to255octets: packets with a frame length of 128-255 bytes sent 30:tx-256to511octets: packets with a frame length of 256-511 bytes sent 31:tx-512to1023octets: packets with a frame length of 512-1023 bytes sent 32:tx-1024to1518octets: packets with a frame length of 1024-1518 bytes sent 35: tx-oversizes: Packets that are too long when sent 42: tx-discards: Packets discarded when sent
<upper-threshold>	Upper threshold, the range is 0-4294967295
<lower-threshold>	Lower threshold, the range is 0-4294967295

【Configuration case】

Case 1: The upper limit and lower limit of the number of frames received by statistics on the GE1 port are 50000 and 500.

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

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

13.5.2.Viewing the configuration information of the performance statistics threshold of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **show statistics port <port-ID> threshold**
Applicable view	GE View
Function	This command is used to view the performance statistics threshold

Description	configuration information of the GE uplink port.
<port-ID>	The port number to be viewed, in the range of 1-4.

【Configuration case】

Case 1: View the performance statistics threshold configuration information of the GE1 port.

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

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

13.5.3.Clearing Uplink Port Performance Statistics

Command syntax	OLT(config-interface-ge -0/0)# **reset statistics port <port-ID>**
Applicable view	GE View
Function Description	This command is used to clear the performance statistics of the GE uplink port.
<port-ID>	The port number to be viewed, in the range of 1-4.

【Configuration case】

Case 1: Clear the performance statistics of the GE1 port.

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

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

13.5.4.Configure the performance statistics function with an interval of 15 minutes for the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **statistics port <port-list> 15min {enable|disable}**
Applicable view	GE View
Function Description	This command is used to enable or disable the performance statistics function of the GE uplink interface with an interval of 15 minutes.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable|disable	enable: Enable the 15-minute performance statistics function disable: disable the 15-minute performance statistics function

【Configuration case】

Case 1: Enable the 15-minute performance statistics function of the GE1 port.

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

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

13.5.5.Configure the performance statistics function of the uplink port interval of 24 hours

Command syntax	OLT(config-interface-ge -0/0)# **statistics port <port-list> 24hour {enable|disable}**
Applicable view	GE View
Function Description	This command is used to enable or disable the performance statistics function of the GE uplink interface with an interval of 24 hours.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable|disable	enable: enable 24-hour performance statistics disable: disable the 24-hour performance statistics function

【Configuration case】

Case 1: Enable the 24-hour performance statistics function of the GE1 port.

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

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

13.5.6.View the current 15-minute performance statistics of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **show statistics port <port-ID> current-15min**
Applicable view	GE View
Function Description	This command is used to view the performance statistics of the GE uplink port in the current 15 minutes.
<port-ID>	The port number to be viewed, in the range of 1-4.

【Configuration case】

Case 1: View the performance statistics of the GE1 port for the 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)#
```

13.5.7.View the current 24-hour performance statistics of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **show statistics port <port-ID> current-24hour**
Applicable view	GE View

Function Description	This command is used to view the current 24-hour performance statistics of GE uplink ports.
<port-ID>	The port number to be viewed, in the range of 1-4.

【Configuration case】

Case 1: View the current 24-hour performance statistics of the GE1 port.

```
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)#
```

13.5.8.View the performance statistics of the uplink port in the past 15 minutes

Command syntax	OLT(config-interface-ge -0/0)# **show statistics port <port-ID> historic-15min <interval-number>**
Applicable view	GE View
Function Description	This command is used to view the performance statistics of the GE uplink port in the past 15 minutes.
<port-ID>	The port number to be viewed, in the range of 1-4.
<interval-number>	The number of intervals, ranging from 1 to 96. That is, when it is set to 2, it is to view the performance statistics of the past 30 minutes, and when it is set to 3, it is 45 minutes, and so on.

【Configuration case】

Case 1: View the performance statistics of the GE1 port in the past 15 minutes.

```
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)#
```

13.5.9.View the performance statistics of the uplink port in the past 24 hours

Command syntax	OLT(config-interface-ge -0/0)# **show statistics port <port-ID> historic-24hour <interval-number>**
Applicable view	GE View
Function Description	This command is used to view the performance statistics of the GE uplink port in the past 24 hours.
<port-ID>	The port number to be viewed, in the range of 1-4.
<interval-number>	The number of intervals, ranging from 1 to 7. That is, when it is set to 2, it is to view the performance statistics of the past 48 hours, and when it is set to 3, it is 72 hours, and so on.

【Configuration case】

Case 1: View the performance statistics of the GE1 port in the past 24 hours.

```
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)#
```

13.6.Uplink port traffic suppression function

13.6.1.Configuring the Broadcast Storm Suppression Function on the Uplink Port

Command syntax	OLT(config-interface-ge -0/0)# **traffic-suppress <port-ID> broadcast {enable|disable} pps <value>**
Applicable view	GE View
Function Description	This command is used to enable or disable the broadcast storm suppression function and its pulse per second value of the GE uplink port. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-4.
enable|disable	enable: Enable the broadcast storm suppression function of the GE uplink port disable: Disable the broadcast storm suppression function of the GE uplink port
<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the broadcast storm suppression function of the GE1 port and set the pulse per second value to 14000 pps.

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

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

13.6.2.Configuring Unknown Multicast Storm Suppression on Uplink Ports

Command syntax	OLT(config-interface-ge -0/0)# **traffic-suppress <port-ID> unknown-multicast {enable|disable} pps <value>**
Applicable view	GE View
Function Description	This command is used to enable or disable the unknown multicast storm suppression function of the GE uplink port and its pulse per second value. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-4.
enable|disable	enable: Enable the unknown multicast storm suppression function on the GE uplink port disable: Disable the function of suppressing unknown multicast storms on GE uplink ports

<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the unknown multicast storm suppression function on the GE1 port and set the pulse per second value to 14000 pps.

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

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

13.6.3.Configuring Unknown Unicast Storm Suppression on Uplink Ports

Command syntax	OLT(config-interface-ge -0/0)# **traffic-suppress <port-ID> unknown-unicast {enable|disable} pps <value>**
Applicable view	GE View
Function Description	This command is used to enable or disable the unknown unicast storm suppression function and its pulse per second value of the GE uplink port. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-4.
enable|disable	enable: Enable the unknown unicast storm suppression function on the GE uplink port disable: Disable the unknown unicast storm suppression function on the GE uplink port
<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the unknown unicast storm suppression function of the GE1 port and set the pulse per second value to 14000 pps.

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

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

13.7.Uplink port speed limit function

13.7.1.Configure the uplink and downlink speed limit function of the

uplink port

Command syntax	OLT(config-interface-ge -0|0)# **port-rate <port-list> {egress|ingress} <rate>**
Applicable view	GE View
Function Description	This command is used to configure a rate limit value for a port to limit the rate in the downstream or upstream direction of the port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
egress|ingress	egress: Downlink direction ingress: upstream direction
<rate>	Rate, the value range is 64-10240000, the unit is Kbps. Ports are not rate-limited by default.

【Configuration case】

Case 1: The downlink rate of the GE1 port is limited to 102400 Kpbs.

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

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

13.7.2.Remove the uplink and downlink speed limit function of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **no port-rate <port-list> {egress|ingress }**
Applicable view	GE View
Function Description	This command is used to remove the upstream and downstream speed limit function of the port, that is, unlimited speed.
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.
egress|ingress	egress: Downlink direction ingress: upstream direction
<rate>	Rate, the value range is 64-10240000, the unit is Kbps

【Configuration case】

Case 1: Remove the downlink speed limit function of the GE1 port.

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

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

13.7.3.Configure the bandwidth of the uplink and downlink rate limiting function of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **port-rate <port-list> (egress|ingress) bandwidth < value >**
Applicable view	XGE interface view or GE interface view
Function Description	This command is used to configure the bandwidth of the rate limiting function in the downstream or upstream direction of the port .
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.
egress/ingress	egress: Downlink direction ingress: upstream direction
< value >	Bandwidth ratio , the value range is 1-100 .

【Configuration case】

Case 1: Configure the upstream rate bandwidth of the GE1 port to be 10 % of the interface bandwidth .

```
OLT(config-interface-ge-0/0)# port-rate 1 ingress bandwidth 10

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

13.7.4.Configure the upstream and downstream burst traffic size of the uplink port

Command syntax	OLT(config-interface-ge -0/0)# **port-rate <port-list> (egress|ingress) burst-size < value >** OLT(config-interface-ge -0/0)# **no port-rate <port-list> (egress|ingress) burst-size**
Applicable view	XGE interface view or GE interface view
Function Description	port-rate <port-list> (egress|ingress) burst-size < value > command is used for the size of the upstream and downstream burst traffic of the uplink port . no port-rate <port-list> The (egress|ingress) burst-size command is used to restore the upstream and downstream burst size of the uplink port to the default value. The default value is 0.
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.
egress/ingress	egress: Downlink direction

	ingress: upstream direction
value	The size of the burst traffic to be configured, in Kbps.

【Configuration case】

Case 1: Configure the burst size of the upstream direction of the GE1 port to 100Kbps .

```
OLT(config-interface-ge-0/0)# port-rate 1 ingress burst-size 100

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

13.7.5.View the upstream and downstream speed limit configuration information of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **show port-rate <port-list>**
Applicable view	GE View
Function Description	This command is used to view the upstream and downstream rate limit configuration information of the port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.

【Configuration case】

Case 1: View the upstream and downstream speed limit configuration information of GE1 port.

```
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)#
```

13.8.Uplink port isolation function

13.8.1.Configuring port isolation for uplink ports

Command syntax	OLT(config-interface-ge-0/0)# **isolate <port-list> {enable|disable }**
Applicable view	GE View
Function	This command is used to enable or disable the function of port

Description	isolation from other ports. When the port isolation function is enabled, the port will not be able to communicate with other ports. Disabled by default
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable|disable	enable: Enable the isolation function of this port from other ports disable: Disable the isolation function of this port from other ports

【Configuration case】

Case 1: Enable the isolation function between the GE1 port and other ports.

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

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

13.8.2.Viewing OLT Port Isolation Configuration Information

Command syntax	OLT(config-interface-ge-0/0)# **show port isolate**
Applicable view	GE View
Function Description	This command is used to view OLT port isolation configuration information.

【Configuration case】

Case 1: View the isolation configuration information of the OLT port.

```
OLT(config-interface-ge-0/0)# show port isolate
Isolate amongpon 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 ports : -

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

13.9.Uplink port rapid spanning tree configuration

13.9.1.Cost of configuring rapid spanning tree for uplink ports

Command syntax	OLT(config-interface-ge-0/0)# **spanning-tree cost <port-ID> <cost>**

Applicable view	GE View
Function Description	This command is used to configure the spanning tree cost of the GE uplink interface of the OLT. When there are multiple links between two devices and none of them are root ports, the best path is determined according to the port cost.
<port-ID>	Port number to be configured, the value range is 1-4
<cost>	Overhead value, the value range is 1-200000000

【Configuration case】

Case 1: The cost of configuring the fast spanning tree of the GE1 uplink port of the OLT is 2000.

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

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

13.9.2.Configuring Rapid Spanning Tree Edge Ports for Uplink Ports

Command syntax	OLT(config-interface-ge-0/0)# **spanning-tree edged-port <port-ID> {enable|disable}**
Applicable view	GE View
Function Description	This command is used to configure the spanning tree edge port of the GE uplink port of the OLT. If the user designates a port as an edge port, when the port transitions from the blocking state to the forwarding state, the port can be quickly migrated without waiting for the delay time. The user can only set the port connected to the terminal as an edge port. Default is non-edge port.
<port-ID>	Port number to be configured, the value range is 1-4
enable|disable	enable: Set the port as an edge port. disable: Set the port as a non-edge port.

【Configuration case】

Case 1: Configure the GE1 uplink port of the OLT as an edge port.

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

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

13.9.3.Configuring the point-to-point link connection function of rapid spanning tree on uplink ports

Command syntax	OLT(config-interface-ge-0/0)# **spanning-tree point-to-point <port-ID> {auto|true|false }**
Applicable view	GE View
Function Description	This command is used to configure the point-to-point link connection function of the spanning tree of the GE uplink interface of the OLT. If the bridge works in RSTP mode, the two ports connected by the point-to-point link can quickly transition to the Forwarding state by transmitting synchronization packets, reducing unnecessary forwarding delay time. If this parameter is set to automatic mode, the RSTP protocol can Automatically detect whether the current Ethernet port is connected with a point-to-point link. The user can manually configure whether the current Ethernet port is connected to the point-to-point link, but it is recommended that the user set it to automatic mode.
<port-ID>	Port number to be configured, the value range is 1-4
auto|true|false	auto: configure the point-to-point link connection to automatic mode true: Configure the GE port to be connected to a point-to-point link false: The configured GE port cannot be connected by a point-to-point link

【Configuration case】

Case 1: Configure the point-to-point link connection function of the GE1 uplink port of the OLT to true.

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

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

13.9.4.Configure the priority of the rapid spanning tree of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **spanning-tree priority <port-ID> <port-priority>**
Applicable view	GE View
Function Description	This command is used to configure the spanning tree priority of the GE uplink interface of the OLT. By setting the priority of the Ethernet port, a specific Ethernet port can be specified to be included in the spanning tree. In general, the smaller the set value, the higher the priority of the port, and the more likely the Ethernet port is included

	in the spanning tree. within the spanning tree. If all the Ethernet ports of the bridge use the same priority parameter value, the priority of the Ethernet port depends on the index number of the Ethernet port.
<port-ID>	Port number to be configured, the value range is 1-4
<port-priority>	Port priority, the value range is 0-240, and the step size is 16. The default value is 128.

【Configuration case】

Case 1: Configure the spanning tree priority of the GE1 uplink port of the OLT to be 160.

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

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

13.10.Uplink port VLAN configuration

13.10.1.Configure the VLAN mode of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **vlan mode <port-ID> {access|hybrid|trunk}**
Applicable view	GE View
Function Description	This command is used to configure the VLAN mode of the GE uplink port of the OLT, and the default is Access mode. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-list>	List of ports to be configured, the value range is 1-4, the format is 1, 2-3, 4.
access|hybrid|trunk	Access: Access type ports can only belong to one VLAN, and are generally used to connect to computer ports; Trunk : Trunk type ports can allow multiple VLANs to pass through, and can receive and send packets of multiple VLANs. They are generally used for ports connected between switches; Hybrid : Hybrid type ports can allow multiple VLANs to pass through, can receive and send packets of multiple VLANs, can be used to connect between switches, and can also be used to connect users' computers.

【Configuration case】

Case 1: Configure the VLAN mode of the GE1 uplink port of the OLT to Access mode.

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

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

13.10.2.Configuring the Native VLAN of the Uplink Port

Command syntax	OLT(config-interface-ge-0/0)# **vlan native-vlan <port-list> <vlan-ID>**
Applicable view	GE View
Function Description	This command is used to configure the native VLAN of the GE uplink port of the OLT, which is 1 by default. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-list>	Port number to be configured, the value range is 1-4, the format can be 1, 2-3, 4
<vlan-ID>	VLAN ID, the value range is 1-4094.

【Configuration case】

Case 1: Configure the Native VLAN of the GE1 uplink port of the OLT to 10.

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

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

13.10.3.Configure the priority of the native VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **vlan native-vlan-priority <port-list> <priority>**
Applicable view	GE View
Function Description	This command is used to configure the native VLAN priority of the GE uplink port of the OLT. The default is 0.
<port-list>	Port number to be configured, the value range is 1-4, the format can be 1, 2-3, 4
<priority>	Priority, the value range is 0-7.

【Configuration case】

Case 1: Configure the priority of the Native VLAN of the GE1 uplink port of the OLT to be 1.

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

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

13.10.4.Enable or disable the native-vlan of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **port <port-list> native-vlan (enable|disable)**
Applicable view	GE interface view
Function Description	Enable or disable the native-vlan of the port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable	Enable native-vlan for the specified port
disable	Disable the native-vlan of the specified port

【Configuration case】

Case 1: Enable native-vlan on GE1 port.

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

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

13.10.5.Configuring the Access VLAN of the Uplink Port

Command syntax	OLT(config-interface-ge-0/0)# **vlan access <port-ID> <vlan-id>**
Applicable view	GE View
Function Description	This command is used to configure the Access VLAN of the GE uplink port of the OLT. The default Access VLAN is 1. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-ID>	Port number to be configured, the value range is 1-4
<vlan-id>	Access VLAN ID, ranging from 1 to 4094

【Configuration case】

Case 1: Configure the access VLAN of the GE1 uplink port of the OLT to 100.

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

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

13.10.6.Configuring the Hybrid VLAN of the Uplink Port

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

syntax	**{tagged|untagged} <vlan-list>**
Applicable view	GE View
Function Description	This command is used to configure the hybrid VLAN of the GE uplink port of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-ID>	Port number to be configured
Tagged|untagged	tagged: Packets outgoing from the port with the corresponding vlan tag untagged: strip the vlan tag from the packets outgoing from the port
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Add a hybrid VLAN of 10-15 untagged to the GE1 uplink port of the OLT.

```
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)#
```

Case 2: Add a hybrid VLAN tag of 101 to the GE1 uplink port of the OLT.

```
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)#
```

13.10.7.Delete the Hybrid VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **no v lan hybrid <port-ID> {tagged|untagged} <vlan-list>**
Applicable view	GE View
Function Description	This command is used to delete the hybrid VLAN of the GE uplink port of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-ID>	Port number to be configured
Tagged|untagged	tagged: Packets outgoing from the port with the corresponding vlan tag untagged: strip the vlan tag from the packets outgoing from the port
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Delete the hybrid VLAN tag of 10-15 on the GE1 uplink port of the OLT.

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

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

13.10.8.Configure the Trunk VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **vlan trunk <port-ID> <vlan-list>**
Applicable view	GE View
Function Description	This command is used to configure the trunk VLAN of the GE uplink port of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-ID>	Port number to be configured
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Add trunk VLANs 10-15 to the GE1 uplink port of the OLT.

```
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)#
```

13.10.9.Delete the trunk VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **no vlan trunk <port-ID> <vlan-list>**
Applicable view	GE View
Function Description	This command is used to delete the trunk VLAN of the GE uplink port of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-ID>	Port number to be configured
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Delete the trunk VLAN of the GE1 uplink port of the OLT to be 10-15.

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

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

13.10.10.Configure the Translate VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **vlan translate <port-list> <old-vlan> <new-vlan> <new-priority>**
Applicable view	GE View
Function Description	This command is used to configure the translate VLAN of the GE uplink port of the OLT. In the upstream direction, convert the old VLAN to the new VLAN and update the new priority
<port-list>	Port number to be configured, the value range is 1-4
<old-vlan>	The original VLAN ID, ranging from 1 to 4094
<new-vlan>	The converted VLAN ID, ranging from 1 to 4094
<new-priority>	The converted VLAN priority, the value can be 0-7

【Configuration case】

Case 1: The original VLAN 10 of the GE1 uplink port of the OLT is converted to the new VLAN 11, and the priority is converted to 3.

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

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

13.10.11.Delete the Translate VLAN of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **no vlan translate <port-list> <vlan-id>**
Applicable view	GE View
Function Description	This command is used to delete the translate VLAN of the GE uplink port of the OLT.
<port-list>	Port number to be configured, the value range is 1-4
<vlan-id>	VLAN ID to delete, the value is 1-4094

【Configuration case】

Case 1: Delete the vlan10 used for translation on the GE1 uplink port of the OLT.

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

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

13.10.12.Configure the protocol VLAN of the GE uplink port

Command syntax	OLT(config-interface-ge-0|0)# **protocol-vlan <protocol-index> {add|delete} port <port-list> <vlan-ID>**
Applicable view	GE View
Function Description	This command is used to bind a protocol VLAN index to the port and port VLAN. First, you need to create a protocol-vlan in the config view.
<protocol-index>	The index of the protocol VLAN, the value range is 1-16.
add|delete	add: add vlan delete: delete vlan
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
<vlan-ID>	VLAN ID, the value range is 1-4094

【Configuration case】

Case 1: Bind the GE1 port to the protocol vlan index 1 and add it to vlan100.

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

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

13.11.View uplink port information

13.11.1.View the attributes and status information of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **show port state {<port-ID> | all}**
Applicable view	GE View
Function Description	This command is used to view the attribute information of the GE uplink port of the OLT.
<port-ID> | all	Port-ID: The port number to be viewed, the value range is 1-4 All: View attribute information of all ports

【Configuration case】

Case 1: View the attributes and status information of all GE uplink ports on the OLT.

```
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 100 full on enable enable on 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 1 enable 1000 full on enable enable off 1518
---------------------------------------------- ----------------------------------------

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

Case 2: View the attributes and status information of the GE1 uplink port of the OLT.

```
OLT(config-interface-ge-0/0)# show port state 1
---------------------------------------------- ----------------------------------------
Port name : ge0/0/1
Current port state : enable
Current link state : UP
The maximum frame size: 1518
Link speed : autonegotiation(100 Mbps)
Link duplex : autonegotiation(FULL)
Flow-control : on
Maximum number of learned l2 entries : unlimited
Broadcasts stormcontrol : 12334(pps)
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): 24448581 bytes
Input: unicast 9932, broadcasts 89344, multicasts 31404, errors 0
Output(total): 1566623 bytes
Output:unicast 8963, broadcasts 293, multicasts 60, errors 0
---------------------------------------------- ----------------------------------------

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

13.11.2.View the VLAN information of the uplink port

Command syntax	OLT(config-interface-ge-0/0)# **show port vlan <port-ID>**
Applicable view	GE View
Function Description	This command is used to view the VLAN information of the GE uplink port of the OLT.
<port-ID>	Port-ID: The port number to be viewed, the value range is 1-4

【Configuration case】

Case 1: View the VLAN information of the GE1 uplink port of the OLT.

```
OLT(config-interface-ge-0/0)# show port vlan 1
---------------------------------------------- ----------------------------------
Port: ge0/0/1 Mode: Access Native-Vlan: 101 Priority: 0
---------------------------------------------- ----------------------------------
Tagged-Vlan:
-
---------------------------------------------- ----------------------------------
Untagged-Vlan:
101
---------------------------------------------- ----------------------------------

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

13.11.3.Check the optical power information of the OLT uplink optical port

Command syntax	OLT(config-interface-ge-0/0)# **show ddm-info <port-ID>**
Applicable view	GE View
Function Description	This command is used to view the optical power information of the optical port connected to the OLT.
<port-ID>	Port number to be configured, the value range is 1-4

【Configuration case】

Case 1: Check the optical power information of the GE1 uplink optical port of the OLT.

```
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)#
```

14.OLT PON port configuration

14.1.PON port property configuration

14.1.1.Disable PON port

Command syntax	OLT(config-interface- gpon -0/0)# **shutdown <port-list>**
Applicable view	gpon view
Function Description	This command is used to disable the specified PON port or all PON ports.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 3-5, 8.
<all>	Refers to all PON ports

【Configuration case】

Case 1: Disable the PON1, PON2, and PON3 ports of the OLT.

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

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

Case 2: Disable all PON ports of the OLT.

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

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

14.1.2.Enable PON port

Command syntax	OLT(config-interface- gpon -0/0)# **no shutdown <port-list>**

Applicable view	gpon view
Function Description	This command is used to enable the specified PON port.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 3-5, 8.
<all>	Refers to all PON ports

【Configuration case】

Case 1: Enable the PON 1, PON2, and PON3 ports of the OLT.

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

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

Case 2: Enable all PON ports of the OLT.

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

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

14.1.3.Configure the name of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **port-name <port-ID> <name>**
Applicable view	gpon view
Function Description	This command is used to name the port for user management.
<port-ID>	Port number to be configured, the value range is 1-16.
<name>	The name of the port to be named.

【Configuration case】

Case 1: Name the PON1 port as test.

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

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

14.1.4.Restore the name of the PON port to the default value

Command syntax	OLT(config-interface-gpon-0/0)# **no port-name <port-ID>**

Applicable view	gpon view
Function Description	This command is used to restore the port name to the default value.
<port-ID>	Port number to be configured, the value range is 1-16.

【Configuration case】

Case 1: Restore the name of the PON1 port to the default value.

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

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

14.1.5.Configure the maximum frame length transmitted by the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **frame-max <port-list> <frame-max-value>**
Applicable view	gpon view
Function Description	This command is used to set the maximum frame length for port transmission. The system default is 1518.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
<frame-max-value>	The value range of Frame-max: 328~2048.

【Configuration case】

Case 1: Configure the frame-max of the PON1 port to 1600.

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

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

14.1.6.Restore the default value of the maximum frame length for PON port transmission

Command syntax	OLT(config-interface-gpon -0/0)# **no frame-max <port-list>**
Applicable view	gpon view
Function	This command is used to restore the MTU value of the port to the

Description	system default value of 1518.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.

【Configuration case】

Case 1: Restore the MTU of the PON1 port to the default value of 1518.

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

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

14.2.Detect ONU long light function

14.2.1.Configure the automatic detection ONU long light function of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **anti-rogueont auto-detect {<port-ID>|all} {enable|disable} interval <interval-value>**
Applicable view	gpon view
Function Description	This command is used to enable or disable the automatic detection ONU long light-emitting function of the P ON port . When enabled, the OLT will generate an alarm message when the ONU lights up for a long time.
<port- ID >	The port number to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
all	refers to all port numbers
enable|disable	enable: Enable P ON port automatic detection ONU long light function disable: Disable the P ON port automatic detection ONU long light function
Interval	The interval of automatic detection, the range is 1-100, the unit is minutes (mins), the default value is 15, if this parameter is not configured, the default value is used.

【Configuration case】

Case 1: Enable the PON1 port to automatically detect the ONU long light-emitting function.

```
OLT(config-interface- g pon-0 / 0)# anti-rogueont auto-detect 1 enable
```

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

14.2.2.Manually configure the ONU long light-emitting function of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **anti-rogueont manual-detect <port-ID>**
Applicable view	gpon view
Function Description	This command is used to manually configure the ONU long light detection function of the P ON port . After executing this command, the PON port will perform the function of detecting ONU long light emission.
<port- ID >	The port number to be configured, the value range is 1-16 , the format is 1, 6-7, 8.

【Configuration case】

Case 1: Manually configure the PON1 port to detect the ONU long light-emitting function.

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

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

14.2.3.View the automatic detection ONU long light function information of all PON ports

Command syntax	OLT(config-interface-gpon -0/0)# **show anti-rogueont auto-detect switch**
Applicable view	gpon view
Function Description	the configuration information of the automatic detection ONU long light-emitting function of all PON ports .

【Configuration case】

Case 1: View all PON ports automatically detect ONU long light function information.

```
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)#
```

14.3.ONU automatic isolation function

14.3.1.Configuring the ONU automatic isolation function under the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **anti-rogueont auto-isolate (<port-ID> |all) enable|disable**
Applicable view	gpon view
Function Description	Configuring the automatic isolation function under the PON port
<port-ID>	to be configured , the value range is 1-16.

【Configuration case】

Case 1: Enable PON1 automatic isolation function

```
OLT(config-interface-gpon-0/0)# anti-rogueont auto-isolate 1 enable
Set Pon 1 Success


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

Case 2 : Disable the automatic isolation function of all PON ports

```
OLT(config-interface-gpon-0/0)# anti-rogueont auto-isolate all disable
Number of Ports that can be set: 8, success: 8
```

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

14.3.2.Check the status of the ONU automatic isolation function under the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show anti-rogueont isolate-rogue-onu switch**
Applicable view	gpon view
Function Description	Check the status of the automatic isolation function of the PON port

【Configuration case】

Case 1: Check the status of the automatic isolation function of the PON port

```
OLT(config-interface-gpon-0/0)# show anti-rogueont isolate-rogue-onu switch
------------------------------------------------- ----------------------------------------
F/S Port Switch
------------------------------------------------- -------------------------
0/0 1 disable
0/0 2 disable
0/0 3 disable
0/0 4 disable
0/0 5 disable
0/0 6 disable
0/0 7 disable
0/0 8 disable
------------------------------------------------- ----------------------------------------

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

14.4.Configuring the flow control function of the PON port

Command syntax	OLT(config-interface-gpon-0/0)# **flow-control <port-list> {enable|disable}**
Applicable view	gpon view
Function Description	This command is used to enable or disable the flow control function of the PON port .

<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
enable|disable	enable: Enable the flow control function of the port disable: disable the flow control function of the port

【Configuration case】

Case 1: Enable the flow control function of the PON1 port of the OLT.

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

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

14.5.PON port mirroring function

14.5.1.Configuringpon port mirroring

Command syntax	OLT(config-interface-gpon-0/0)# **mirror src-port <src-port-id> dst-port {ge|xge <F/S/P>} {all|egress|ingress}**
Applicable view	gpon view
Function Description	This command is used to configure the mirroring function of the PON port. Use this command when you need to copy the traffic of a PON port in the system to the output of other uplink ports for traffic observation, network fault diagnosis, and data analysis. After the mirroring function of the PON port is successfully set , the packets in the specified direction of the mirroring source port will be completely copied to the mirroring destination port.
<src-port-id>	Port number of the mirroring source port, ranging from 1 to 16.
ge|xge	ge: Gigabit ge uplink port xge: 10 Gigabit xge uplink port
<F/S/P>	Port number of the mirror destination port, ge: the value range is 0/0/1 - 0/0/4; xge: the value range is 0/0/1 - 0/0/2
all|egress|ingress	all: The mirroring source port sends and receives bidirectional packets. Completely copy and output the packets received and sent by the mirroring source port to the mirroring destination port. egress: The packets sent by the mirroring source port. Completely copy and output the packets sent by the mirroring source port to the mirroring destination port. ingress: Received packets of the mirroring source port. Completely copy and output the packets received by the mirroring source port to the mirroring destination port.

【Configuration case】

Case 1: Mirror the outbound and inbound packets of the PON1 port to the GE2 port.

```
OLT(config-interface- g pon-0 / 0)# mirror src-port 1 dst-port ge 00 |2 all

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

14.5.2.Remove PON port mirroring function configuration

Command syntax	OLT(config-interface-gpon -0/0)# **no mirror src-port <src-port-id>**
Applicable view	gpon view
Function Description	This command is used to remove the configuration of the mirroring function of the PON port.
<src-port-id>	Port number of the mirroring source port, the value range is 1-16 .

【Configuration case】

Case 1: Remove the mirroring function configuration of the PON1 port.

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

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

14.5.3.View the configuration information of the mirroring function of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show mirror**
Applicable view	gpon view
Function Description	This command is used to view the configuration information of the mirroring function of the port.

【Configuration case】

Case 1: View the configuration information of the OLT port mirroring function.

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

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

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

14.6.OLT PON port VLAN configuration

14.6.1.Enable or disable the native VLAN of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **port <port-list> native-vlan (enable|disable)**
Applicable view	gpon view
Function Description	Enable or disable the native-vlan of the port.
<port-list>	List of ports to be configured, the format is 1, 2-3, 4.
enable	Enable native-vlan for the specified port
disable	Disable the native-vlan of the specified port

【Configuration case】

Case 1: Enable the native-vlan of the PON1 port.

```
OLT(config-interface-gpon -0/0)# port 1 native-vlan enable

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

14.6.2.Configuring the Native VLAN of the PON Port

Command syntax	OLT(config-interface- gpon -0/0)# **vlan native-vlan <port-list> <vlan-ID>**
Applicable view	gpon view
Function Description	This command is used to configure the native VLAN of the PON port of the OLT, and the default is 1. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.
<vlan-ID>	VLAN ID, the value range is 1-4094.

【Configuration case】

Case 1: Configure the Native VLAN of the PON 1 port of the OLT to 10.

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

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

14.6.3.Configure the Trunk VLAN of the PON port

Command syntax	OLT(config-interface- gpon -0/0)# **vlan trunk <port-list> <vlan-list>**
Applicable view	gpon view
Function Description	This command is used to configure the trunk VLAN of the PON port of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<port- list >	List of ports to be configured, the format is 1, 6-7, 8.
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Add trunk VLAN as 10-15 to PON1 port of OLT.

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

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

14.6.4.View the VLAN information of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show port vlan <port-ID>**
Applicable view	gpon view
Function Description	This command is used to view the VLAN information of the PON port of the OLT.
<port-ID>	Port-ID: The port number to be viewed, the value range is 1-8

【Configuration case】

Case 1: View the VLAN information of the PON1 port of the OLT.

```
OLT(config-interface- g pon-0/0)# show port vlan 1
---------------------------------------------- ----------------------------------
Port: pon0/0/1 Mode: Access Native-Vlan: 1 Priority: 0
---------------------------------------------- ----------------------------------
Tagged-Vlan:
-
---------------------------------------------- ----------------------------------
Untagged-Vlan:
```

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

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

14.7.PON port performance statistics

14.7.1.Configure the performance statistics function with a PON port interval of 15 minutes

Command syntax	OLT(config-interface-gpon -0/0)# **statistics port <port-list> 15min {enable|disable}**
Applicable view	gpon view
Function Description	This command is used to enable or disable the performance statistics function of the PON port with an interval of 15 minutes.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
enable|disable	enable: Enable the 15-minute performance statistics function disable: disable the 15-minute performance statistics function

【Configuration case】

Case 1: Enable the 15-minute performance statistics function of the PON1 port.

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

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

14.7.2.Configure the performance statistics function with a PON port interval of 24 hours

Command syntax	OLT(config-interface-gpon -0/0)# **statistics port <port-list> 24hour {enable|disable}**
Applicable view	gpon view
Function Description	This command is used to enable or disable the performance statistics function of the PON port with an interval of 24 hours.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.

enable|disable	enable: enable 24-hour performance statistics disable: disable the 24-hour performance statistics function

【Configuration case】

Case 1: Enable the 24-hour performance statistics function of the PON1 port.

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

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

14.7.3.Configuring the Threshold for PON Port Performance Statistics

Command syntax	OLT(config-interface-gpon -0/0)# **statistics port <port-list> threshold <type> <upper-threshold><lower-threshold>**
Applicable view	gpon view
Function Description	This command is used to configure the threshold of the PON port performance statistics function.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
<type-ID>	The value can be 1-64, where: 1:rx-octets: bytes of the received message 2:rx-frames: the frame of the received message 3:rx-bcasts: received broadcast messages 4:rx-mcasts: Received multicast packets 5: rx-64octets: Received packets with a frame length of 64 bytes 6:rx-65to127octets: Received packets with a frame length of 65-127 bytes 7:rx-128to255octets: Received packets with a frame length of 128-255 bytes 8:rx-256to511octets: Received packets with a frame length of 256-511 bytes 9:rx-512to1023octets: Received packets with a frame length of 512-1023 bytes 10:rx-1024to1518octets: Received packets with a frame length of 1024-1518 bytes 13:rx-oversizes: Packets with too long messages when receiving 20:rx-discards: Packets discarded when receiving 23:tx-octets: bytes of the sent message 24:tx-frames: frames sent 25:tx-bcasts: broadcast packets sent

	26:tx-mcasts: multicast packets sent 27: tx-64octets: packets with a frame length of 64 bytes sent 28:tx-65to127octets: packets with a frame length of 65-127 bytes sent 29:tx-128to255octets: packets with a frame length of 128-255 bytes sent 30:tx-256to511octets: packets with a frame length of 256-511 bytes sent 31:tx-512to1023octets: packets with a frame length of 512-1023 bytes sent 32:tx-1024to1518octets: packets with a frame length of 1024-1518 bytes sent 35: tx-oversizes: Packets that are too long when sent 42: tx-discards: Packets discarded when sent
<upper-threshold>	Upper threshold, the range is 0-4294967295
<lower-threshold>	Lower threshold, the range is 0-4294967295

【Configuration case】

Case 1: The upper limit of the number of frames received by statistics on the PON port is 50000, and the lower limit is 500.

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

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

14.7.4.Clear PON port performance statistics

Command syntax	OLT(config-interface-gpon -0/0)# **reset statistics port <port-ID>**
Applicable view	gpon view
Function Description	This command is used to clear the performance statistics of the PON port.
<port-ID>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.

【Configuration case】

Case 1: Clear the performance statistics of the PON1 port.

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

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

14.7.5.View the current 15-minute performance statistics of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics port <port-ID> current-15min**
Applicable view	gpon view
Function Description	the performance statistics of the PON port in the current 15 minutes .
<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View the performance statistics of the PON1 port for the current 15 minutes.

```
OLT(config-interface- g pon-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)#
```

14.7.6.View the current 24-hour performance statistics of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics port <port-ID> current-24hour**
Applicable view	gpon view
Function Description	This command is used to view the current 24-hour performance statistics of the PON port.
<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View the current 24-hour performance statistics of the PON1 port.

```
OLT(config-interface- g pon-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)#
```

14.7.7.View the performance statistics of the PON port in the past 15 minutes

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics port <port-ID> historic-15min <interval-number>**
Applicable view	gpon view
Function Description	the performance statistics of the PON port in the past 15 minutes .
<port-ID>	The port number to be viewed, in the range of 1-16.
<interval-number>	The number of intervals, ranging from 1 to 96. That is, when it is set to 2, it is to view the performance statistics of the past 30 minutes, and when it is set to 3, it is 45 minutes, and so on.

【Configuration case】

Case 1: View the performance statistics of the PON1 port in the past 15 minutes.

```
OLT(config-interface- g pon-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)#
```

14.7.8.View the performance statistics of the PON port in the past 24 hours

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics port <port-ID> historic-24hour <interval-number>**
Applicable view	gpon view
Function Description	the performance statistics of the PON port in the past 24 hours .
<port-ID>	The port number to be viewed, in the range of 1-16.

<interval-number>	The number of intervals, ranging from 1 to 7. That is, when it is set to 2, it is to view the performance statistics of the past 48 hours, and when it is set to 3, it is 72 hours, and so on.

【Configuration case】

Case 1: View the performance statistics of the PON1 port in the past 24 hours.

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

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

14.7.9.View the performance statistics threshold configuration information of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics port <port-ID> threshold**
Applicable view	gpon view
Function Description	This command is used to view the performance statistics threshold configuration information of the PON port.
<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View the performance statistics threshold configuration information of the PON1 port.

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

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

14.7.10.View the pon-mac traffic statistics under the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics pon-mac <port-ID>**
Applicable view	gpon view
Function Description	View the pon-mac traffic statistics under the port
<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View pon-mac traffic statistics under pon1

```
OLT(config-interface-gpon-0/0)# show statistics pon-mac 1
---------------------------------------------- ----------------------------------
Rx rate (kbps): 0 Tx rate (kbps): 0
---------------------------------------------- ----------------------------------
Upstream Downstream
---------------------------------------------- -------------------------
frames 0 773
bytes 0 131521
frames 64 0 132
frames 65-127 0 469
frames 128-255 0 80
frames 256-511 0 46
frames 512-1023 0 12
frames 1024-1518 0 34
frames 1519-2047 0 0
frames 2048-4095 0 0
frames 4096-9216 0 0
frames 9217-16383 0 0
good frames 0 736
unicast frames 0 0
multicast frames 0 541
broadcast frames 0 195
pause frames 0 0
pfc frames 0 0
jabber frames 0 0
fcs errors 0 0
control frames 0 0
oversize frames 0 0
fragmented frames 0 0
error frames 0 -
vlan frames 0 578
double vlan frames 0 0
runt frames 0 0
underrun frames 0 -
unsupported opcode - 0
unsupported da - 0
alignment errors - 0
length out of range - 37
code errors - 0
mtu check errors - 0
promiscuous frames - 0
truncated frames - 0
```

```
undersize frames - 0
---------- ----------

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

14.7.11.Reset the pon-mac traffic statistics under the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **reset statistics pon-mac <port-ID>**
Applicable view	gpon view
Function Description	Reset the pon-mac traffic statistics under the port
<port-ID>	to be reset , the value range is 1-16.

【Configuration case】

Case 1: Reset PON-MAC 1 traffic statistics

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

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

14.8.PON port traffic suppression function

14.8.1.Configuring Broadcast Storm Suppression on a PON Port

Command syntax	OLT(config-interface-gpon -0/0)# **traffic-suppress <port-ID> broadcast {enable|disable} pps <value>**
Applicable view	gpon view
Function Description	This command is used to enable or disable the broadcast storm suppression function of the PON port and its pulse per second value. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-16.
enable|disable	enable: Enable the broadcast storm suppression function of the PON port disable: Disable the broadcast storm suppression function of the PON port
<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the broadcast storm suppression function of the PON1 port and set the pulse per second value to 14000 pps.

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

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

14.8.2.Configuring Unknown Multicast Storm Suppression on a PON Port

Command syntax	OLT(config-interface-gpon -0/0)# **traffic-suppress <port-ID> unknown-multicast {enable|disable} pps <value>**
Applicable view	gpon view
Function Description	This command is used to enable or disable the unknown multicast storm suppression function of the PON port and its pulse per second value. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-16.
enable|disable	enable: Enable the unknown multicast storm suppression function on the PON port disable: Disable the function of suppressing unknown multicast storms on the PON port
<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the unknown multicast storm suppression function of the PON1 port and set the pulse per second value to 14000 pps.

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

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

14.8.3.Configuring Unknown Unicast Storm Suppression on a PON Port

Command	OLT(config-interface-gpon -0/0)# **traffic-suppress <port-ID>**

syntax	**unknown-unicast {enable|disable} pps <value>**
Applicable view	gpon view
Function Description	This command is used to enable or disable the unknown unicast storm suppression function of the PON port and its pulse per second value. Prevent such packets from occupying too many network resources and causing network congestion.
<port-ID>	Port number to be configured, the value range is 1-16.
enable|disable	enable: Enable the unknown unicast storm suppression function on the PON port disable: Disable the unknown unicast storm suppression function on the PON uplink port
<value>	The number of pulses per second, the value range is 1-1488100, the unit is pps

【Configuration case】

Case 1: Enable the unknown unicast storm suppression function of the PON1 port and set the pulse per second value to 14000 pps.

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

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

14.9.PON port speed limit function

14.9.1.Configure the upstream and downstream speed limit function of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **port-rate <port-list> {egress|ingress} <rate>**
Applicable view	gpon view
Function Description	This command is used to configure a rate limit value for a port to limit the rate in the downstream or upstream direction of the port.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
egress|ingress	egress: Downlink direction ingress: upstream direction
<rate>	Rate, the value range is 64-10240000, the unit is Kbps. Ports are not

	rate-limited by default.

【Configuration case】

Case 1: The downstream rate of the PON1 port is limited to 102400 Kpbs.

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

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

14.9.2.Remove the upstream and downstream speed limit function of PON port

Command syntax	OLT(config-interface-gpon -0/0)# **no port-rate <port-list> {egress|ingress}**
Applicable view	gpon view
Function Description	This command is used to remove the upstream and downstream speed limit function of the port, that is, unlimited speed.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
egress|ingress	egress: Downlink direction ingress: upstream direction

【Configuration case】

Case 1: Remove the downlink rate limit function of the PON1 port.

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

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

14.9.3.Configure the bandwidth of the upstream and downstream rate limiting functions of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **port-rate <port-list> (egress|ingress) bandwidth < value >**
Applicable view	gpon view
Function Description	This command is used to configure the bandwidth of the rate limiting function in the downstream or upstream direction of the port .
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.

egress/ingress	egress: Downlink direction ingress: upstream direction
< value >	Bandwidth ratio , the value range is 1-100 .

【Configuration case】

Case 1: Configure the upstream rate bandwidth of the PON1 port to be 10 % of the interface bandwidth .

```
OLT( config-interface-gpon -0/0 )# port-rate 1 ingress bandwidth 10

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

14.9.4.Configure the upstream and downstream burst traffic size of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **port-rate <port-list> (egress|ingress) burst-size < value >** OLT(config-interface-gpon -0/0)# **no port-rate <port-list> (egress|ingress) burst-size**
Applicable view	gpon view
Function Description	port-rate <port-list> (egress|ingress) burst-size < value > command is used to configure the upstream and downstream burst size of the port . no port-rate <port-list> The (egress|ingress) burst-size command is used to restore the default upstream and downstream burst size of the port. The default value is 0.
<port-list>	List of ports to be configured, the format is 1, 6-7, 8.
egress/ingress	egress: Downlink direction ingress: upstream direction
value	The size of the burst traffic to be configured, in Kbps.

【Configuration case】

Case 1: Configure the burst size of the upstream direction of the PON1 port to 100Kbps .

```
OLT(config-interface-gpon -0/0)# port-rate 1 ingress burst-size 100

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

14.9.5.View the upstream and downstream speed limit configuration information of the PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show port-rate <port-list>**
Applicable view	gpon view
Function Description	This command is used to view the upstream and downstream rate limit configuration information of the port.
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.

【Configuration case】

Case 1: Check the upstream and downstream speed limit configuration information of PON1 port.

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

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

14.10.PON port isolation function

14.10.1.Configuring the Port Isolation Function of a PON Port

Command syntax	OLT(config-interface-gpon -0|0)# **isolate <port-list> {enable|disable}**
Applicable view	gpon view
Function Description	This command is used to enable or disable the function of port isolation from other ports. When the port isolation function is enabled, the port will not be able to communicate with other ports. Disabled by default
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
enable|disable	enable: Enable the isolation function of this port from other ports disable: Disable the isolation function of this port from other ports

【Configuration case】

Case 1: Enable the isolation function between the PON1 port and other ports.

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

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

14.10.2.Viewingpon Port Isolation Configuration Information

Command syntax	OLT(config-interface-gpon -0/0)# **show port isolate**
Applicable view	gpon view
Function Description	This command is used to view PON port isolation configuration information.

【Configuration case】

Case 1: View the isolation configuration information of the OLT port.

```
OLT(config-interface-gpon-0/0)# show port isolate
Isolate amongpon 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 ports : -

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

14.11.View OLT PON port information

14.11.1.the properties and status information of the OLT PON port

Command syntax	OLT(config-interface-gpon -0/0)# **show port state {<port-ID> | all}**
Applicable view	gpon view
Function Description	the attribute information of the PON port of the OLT .
<port-ID> | all	Port-ID: The port number to be viewed, the value range is 1-16 All: View attribute information of all ports

【Configuration case】

Case 1: View the attributes and status information of all PON ports of the OLT.

```
OLT(config-interface-gpon-0/0)# show port state all
------------------------------------------------ ---------------------------------------
F/S Port Optic Pvid Flow Learn Admin Frame Link Auto Auth Available
Status Ctrl State Max State Find Mode Bandwidth(Kbps)
------------------------------------------------ -------------------------
```

```
0/0 1 absence 1 off en en 1518 down dis AS 962400
0/0 2 normal 1 on en en 1518 up en MS 961376
0/0 3 normal 1 on en en 1518 down en MS 961632
0/0 4 absence 1 on en en 1518 down dis AS 962400
0/0 5 absence 1 on en en 1518 down dis AS 962400
0/0 6 absence 1 on en en 1518 down dis AS 962400
0/0 7 absence 1 on en en 1518 down dis AS 962400
0/0 8 absence 1 on en en 1518 down dis AS 962400
0/0 9 absence 1 on en en 1518 down dis AS 962400
0/0 10 absence 1 on en en 1518 down dis AS 962400
0/0 11 absence 1 on en en 1518 down dis AS 962400
0/0 12 absence 1 on en en 1518 down dis AS 962400
0/0 13 absence 1 on en en 1518 down dis AS 962400
0/0 14 normal 1 on en en 1518 up dis AS 962144
0/0 15 absence 1 on en en 1518 down dis AS 962400
0/0 16 absence 1 on en en 1518 down dis AS 962400
---------------------------------------------------- ---------------------------------------

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

Case 2: View the attributes and status information of the PON1 port of the OLT.

```
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-rogueont auto-detect : enable

Port Name : pon0/0/1
Native vlan : 1
Maximum frame size: 1518
Flow-control : Off
Maximum learned l2 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)#
```

14.11.2.the optical power information of the OLT P ON port

Command syntax	OLT(config-interface-gpon -0/0)# **show port ddm-info <port-ID>**
Applicable view	gpon view
Function Description	This command is used to view the optical power information of the PON port of the OLT, the temperature and voltage of the optical module, and the model type information of the PON module.
<port-ID>	Port number to be configured, the value range is 1-16

【Configuration case】

Case 1: Check the optical power information of the PON1 port of the OLT.

```
OLT(config-interface-gpon-0/0)# show port ddm-info 1
---------------------------------------------- ----------------------------------------
Temperature(C): 37.2
Supply Voltage(V): 3.37
TX Bias current(mA) : 25
TX power(dBm): 3.96
RX power(dBm) : -17.25
---------------------------------------------- -------------------------
Vendor : OEM
Product name : D24364-SSCA
Version : 10
Serial number : D160531100012
---------------------------------------------- ----------------------------------------

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

15.OLT MAC address configuration

15.1.Configure a black hole MAC address

Command syntax	OLT(config)# **mac-address black-hole vlan < vlan-ID > <mac-address>**
Applicable view	config view
Function Description	This command is used to specify the black hole MAC address entry. If the source MAC address or destination MAC address of a packet is

	equal to the MAC address of the black hole MAC address entry, the switch discards the packet.
<vlan-ID>	VLAN ID , the value range can be 1-4094 .
<mac-address>	Mac address in the format XX:XX:XX:XX:XX:XX

【Configuration case】

Case 1: Configure the black hole mac address of vlan 100 as 00:00:00:12:34:56.

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

OLT(config)#
```

15.2.Delete the black hole MAC address

Command syntax	OLT(config)# **no mac-address black-hole vlan < vlan-ID > <mac-address>**
Applicable view	config view
Function Description	This command is used to delete the specified black hole MAC address entry.
<vlan-ID>	V LAN ID , the value range can be 1-4094 .
<mac-address>	Mac address in the format XX:XX:XX:XX:XX:XX

【Configuration case】

Case 1: Delete the black hole mac address 00:00:00:12:34:56 of vlan100.

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

OLT(config)#
```

15.3.Configuring the Limit on the Number of MAC Address Table Entries

Command syntax	OLT(config)# **mac-address limit port {ge|xge} F / S <port-list> <number>**
Applicable view	config view
Function Description	This command can set the maximum number of learned MAC addresses. When the number exceeds the set maximum, the excess MAC addresses are discarded by default.

ge|xge	ge: uplink port xge: uplink 10 Gigabit port
F / S	FrameID / SlotID , <0-0> , OLT of 1U type are all 0|0
<port-list>	Port list to be configured, the value range is 1-16 , the format is 1, 6-7, 8.
<number>	The number of Mac addresses , the value range is 0-8092 , 0 means unlimited . The default is unlimited.

【Configuration case】

Case 1: Configure the maximum number of mac addresses learned by the uplink ge1 port to be 500.

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

OLT(config)#
```

15.4.Add static MAC address binding

Command syntax	OLT(config)# **mac-address static port {[[ge| xge] F / S / P]| [lag <manual-group-ID> | <lacp-group-ID>]} vlan <vlan-ID> <mac-address>**
Applicable view	config view
Function Description	This command is used to configure the static MAC address of the OLT. After the configuration is successful, the device does not need to learn the MAC address and forwards data directly based on the static MAC address.
ge|xge|lag	ge: uplink port , the value range is 0/0/1-4 xge: Uplink 10 Gigabit port , the value range is 0/0/1-2 lag: port aggregation group, the value range is 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 : The ID of the manual aggregation group , the value range is 1-8 lacp-group-ID : The ID of the lacp aggregation group, the value range is 9-16
<vlan-ID>	VLAN ID, ranging from 1 to 4094.
< mac-address >	Mac address in the format XX:XX:XX:XX:XX:XX

【Configuration case】

Case 1: Bind the mac address e0:67:b3:12:eb:f6 and the ge1 port to vlan100.

```
OLT(config)# mac-address static port ge 0 / 0 /1 vlan 100 e0:67:b3:12:eb:f6

OLT(config)#
```

Case 2: Bind the mac address e0:67:b3:12:eb:f8 to the xge1 port and vlan100.

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

OLT(config)#
```

Case 3: Bind the mac address e0:67:b3:12:eb:f9 and the lag1 group to vlan100.

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

OLT(config)#
```

15.5.Remove static MAC address binding

Command syntax	OLT(config)# **no mac-address static port {[[ge| xge] F / S / P]| [lag <manual-group-ID> | <lacp-group-ID>]} vlan <vlan-ID> <mac-address>**
Applicable view	config view
Function Description	This command is used to delete the static MAC address of the OLT.
ge|xge|lag	ge: uplink port , the value range is 0/0/1-4 xge: Uplink 10 Gigabit port , the value range is 0/0/1-2 lag: port aggregation group, the value range is 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 : The ID of the manual aggregation group , the value range is 1-8 lacp-group-ID : The ID of the lacp aggregation group, the value range is 9-16
<vlan-ID>	VLAN ID, ranging from 1 to 4094.
< mac-address >	Mac address in the format XX:XX:XX:XX:XX:XX

【Configuration case】

Case 1: Delete the static mac address e0:67:b3:12:eb:f6 that binds the ge1 port to vlan100.

```
OLT(config)# no mac-address static port ge 0 / 0 /1 vlan 100 e0:67:b3:12:eb:f6

OLT(config)#
```

Case 2: Delete the static mac address e0:67:b3:12:eb:f8 that binds the xge1 port to vlan100.

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

OLT(config)#
```

Case 3: Delete the static MAC address e0:67:b3:12:eb:f9 bound to vlan100 in aggregation group 1.

```
OLT(config)# no mac-address static port lag 1 vlan 100 e0:67:b3:12:eb:f9

OLT(config)#
```

15.6.Configuring the MAC address aging time

Command syntax	OLT(config)# **mac-address time r { <aging-time> | no-aging }**
Applicable view	config view
Function Description	This command is used to set the aging time of dynamic entries in the system MAC address table. After the MAC address aging time is set successfully, it will take effect immediately. The system regularly checks the dynamic MAC address. If the system does not send or receive any packets carrying the source MAC address within the aging period, the corresponding MAC address will be deleted from the MAC address table. . Periodic aging of dynamic MAC addresses can release MAC address table resources and prevent the system from failing to learn new MAC addresses.
<aging-time> | no-aging	< aging-time >: MAC address aging time, the value range is 10-1000000 , the unit is seconds . no-aging : Set the MAC address to not age. Use this parameter when you do not need to enable the MAC address aging function .

【Configuration case】

Case 1: Set the aging time of the mac address to 1000 seconds.

```
OLT(config)# mac-address timer 1000

OLT(config)#
```

15.7.MAC address learned by the OLT

Command syntax	OLT(config)# **mac-address flush { all | dynamic | black-hole | static }**
Applicable view	config view
Function	This command is used to clear various types of MAC addresses

Description	learned by the OLT.
all | dynamic | black-hole | static	a ll: all learned mac addresses dynamic : dynamic mac address b lack- hole : black hole mac address static : static mac address

【Configuration case】

Case 1: Clear all mac addresses learned by the OLT.

```
OLT(config)# mac-address flush all

OLT(config)#
```

15.8.MAC address learned by the port of the OLT

Command syntax	OLT(config)# **mac-address flush port {[[gpon|ge| xge] F / S / P]| [lag <manual-group-ID> | <lacp-group-ID>]} all | dynamic | static**
Applicable view	config view
Function Description	This command is used to clear various types of MAC addresses learned by the OLT port.
gpon |ge|xge|lag	g pon: PON port , the value range is 0/0/1-16 ge: uplink port , the value range is 0/0/1-4 xge: Uplink 10 Gigabit port , the value range is 0/0/1-2 lag: port aggregation group, the value range is 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 : The ID of the manual aggregation group , the value range is 1-8 lacp-group-ID : The ID of the lacp aggregation group, the value range is 9-16
all | dynamic | static	a ll: all learned mac addresses dynamic : dynamic mac address static : static mac address

【Configuration case】

Case 1: Clear all mac addresses learned by the OLT GE1 port.

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

OLT(config)#
```

15.9.MAC address learned under the specified VLAN by the

OLT

Command syntax	OLT(config)# **mac-address flush vlan <vlan-ID> { all | black-hole | dynamic | static }**
Applicable view	config view
Function Description	This command is used for various types of MAC addresses learned by the OLT under vlan.
< vlan -ID>	specified vlan
all | black-hole | dynamic | static	all: all learned mac addresses black- hole : black hole mac address dynamic : dynamic mac address static : static mac address

【Configuration case】

Case 1: Clear all mac addresses learned by the OLT under VLAN 100.

```
OLT(config)# mac-address flush vlan 100 all

OLT(config)#
```

15.10.MAC addresses learned by the OLT

Command syntax	OLT(config)# **show mac-address all**
Applicable view	config view
Function Description	This command is used to view all the MAC addresses learned by the OLT.

【Configuration case】

Case 1: View all the mac addresses learned by the OLT.

```
OLT(config)# show mac-address all
---------------------------------------------- ----------------------------------------
Total: 1
---------------------------------------------- ----------------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
---------------------------------------------- ----------------------------------------
E0:67:B3:00:00:A2 1 - cpu - - static
---------------------------------------------- ----------------------------------------

OLT(config)#
```

15.11.MAC addresses of OLT

Command syntax	OLT(config)# **show mac-address black - hole**
Applicable view	config view
Function Description	This command is used to view all black hole MAC addresses of the OLT.

【Configuration case】

Case 1: View all black hole mac addresses of the OLT.

```
OLT(config)# show mac-address black-hole
---------------------------------------------- ----------------------------------
Total: 1
---------------------------------------------- ----------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
---------------------------------------------- ----------------------------------
00:00:00:12:34:56 100 - cpu - - blackhol
---------------------------------------------- ----------------------------------

OLT(config)#
```

15.12.MAC addresses learned by the OLT

Command syntax	OLT(config)# **show mac-address dynamic**
Applicable view	config view
Function Description	This command is used to view all dynamic MAC addresses learned by the OLT.

【Configuration case】

Case 1: View all dynamic mac addresses learned by OLT.

```
OLT(config)# show mac-address dynamic
---------------------------------------------- ----------------------------------
Total: 27
---------------------------------------------- ----------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
---------------------------------------------- ----------------------------------
E4:A4:71:49:9E:31 101 - ge0/0/1 - - dynamic
48:A9:D2:52:98:11 101 - ge0/0/1 - - dynamic
```

```
00:00:00:00:00:0A 55 8 pon0/0/14 1 3 dynamic
30:B4:9E:42:A0:1C 101 - ge0/0/1 - - dynamic
08:00:45:00:00:40 101 - 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
00:00:00:00:00:09 55 - ge0/0/3 - - 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
3C:95:09:4F:30:D1 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
F8:62:14:3F:78:E0 101 - ge0/0/1 - - dynamic
A4:CA:A0:C0:C7:18 101 - 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
FC:7C:02:2F:AC:57 101 - ge0/0/1 - - dynamic
---------------------------------------------- ----------------------------------------


OLT(config)#
```

15.13.Check the MAC address learned by the OLT PON port

Command syntax	OLT(config)# **show mac-address port gpon F / S / P**
Applicable view	config view
Function Description	This command is used to view the MAC address learned by the PON port of the OLT
F / S / P	FrameID / SlotID / PortID , <0-0> / <0-0> / <1-16>

【Configuration case】

Case 1: View the mac address learned by the PON2 port

```
OLT(config)# show mac-address port gpon 0/0/2
---------------------------------------------- ----------------------------------------
```

```
Total: 1
---------------------------------------------- ----------------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
---------------------------------------------- ----------------------------------------
E0:67:B3:51:03:AD 101 3 pon0/0/2 4 2 dynamic
---------------------------------------------- ----------------------------------------

OLT(config)#
```

15.14.Check the MAC address learned by the GE port of the OLT

Command syntax	OLT(config)# **show mac-address port ge F / S / P**
Applicable view	config view
Function Description	This command is used to view the MAC address learned by the GE port of the OLT.
F / S / P	FrameID/SlotID/PortID, <0-0>/<0-0>/<1-4>

【Configuration case】

Case 1: Check the MAC address learned by the GE1 port.

```
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)#
```

15.15.Check the MAC address learned by the XGE port of the OLT

Command syntax	OLT(config)# **show mac-address port xge F / S / P**
Applicable view	config view
Function Description	This command is used to view the MAC address learned by the X GE port of the OLT.
F / S / P	FrameID / SlotID / PortID , <0-0> / <0-0> / <1-2>

【Configuration case】

Case 1: Check the mac address learned by the XGE1 port.

```
OLT(config)# show mac-address port xge 0/0/1
There is not any MAC address record!

OLT(config)#
```

15.16.Check the MAC address learned by the port aggregation group of the OLT

Command	OLT(config)# **show mac-address port lag { < Manual group ID> | <**

syntax	**Lacp group ID> }**
Applicable view	config view
Function Description	This command is used to view the MAC addresses learned by the port aggregation group of the OLT.
<Manual group ID> | <Lacp group ID>	manual-group-ID : The ID of the manual aggregation group , the value range is 1-8 lacp-group-ID : The ID of the lacp aggregation group, the value range is 9-16

【Configuration case】

Case 1: View the mac address learned by manual port aggregation group 1.

```
OLT(config)# show mac-address port lag 1
There is not any MAC address record!

OLT(config)#
```

15.17.MAC addresses of OLT

Command syntax	OLT(config)# **show mac-address static**
Applicable view	config view
Function Description	This command is used to view all static MAC addresses of O LT .

【Configuration case】

Case 1: View all static mac addresses of OLT.

```
OLT(config)# show mac-address static
------------------------------------------------ ------------------------------------
Total: 1
------------------------------------------------ ------------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
------------------------------------------------ ------------------------------------
E0:67:B3:00:00:A2 1 - cpu - - static
------------------------------------------------ ------------------------------------

OLT(config)#
```

15.18.MAC address aging time of the OLT

Command syntax	OLT(config)# **show mac-address timer**
Applicable view	config view
Function Description	This command is used to check the MAC address aging time of the OLT .

【Configuration case】

Case 1: Check the aging time of the mac address of the OLT.

```
OLT(config)# show mac-address timer
MAC aging time: 300s

OLT(config)#
```

15.19.Check the MAC address of the OLT in the specified VLAN

Command syntax	OLT(config)# **show mac-address vlan <vlan-id>**
Applicable view	config view
Function Description	This command is used to view the MAC address of the OLT under the specified vlan .
<vlan-id>	The vlan id to be viewed , the value can be 1- 4094

【Configuration case】

Case 1: Check the mac address of OLT under vlan 101.

```
OLT(config)# show mac-address vlan 101
---------------------------------------------- ----------------------------------------
Total: 32
---------------------------------------------- ----------------------------------------
MAC VLAN Sport Port Onu Gemid MAC-Type
---------------------------------------------- ----------------------------------------
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
E0:67:B3:06:02:08 101 - 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
E0:67:B3:00:5B:71 101 - 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
E0:06:E6:98:2F:54 101 - ge0/0/1 - - dynamic
08:00:45:00:00:43 101 - ge0/0/1 - - dynamic
00:DB:DF:9C:FA:0E 101 - ge0/0/1 - - dynamic
04:79:70:8F:35:D6 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
40:4D:7F:01:E2:39 101 - ge0/0/1 - - dynamic
3C:95:09:4F:30:D1 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
F8:62:14:3F:78:E0 101 - ge0/0/1 - - dynamic
A4:CA:A0:C0:C7:18 101 - ge0/0/1 - - dynamic
E0:56:43:A9:B4:19 101 - 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)#
```

16.OLT routing function configuration

16.1.Add or remove static routes

Command syntax	OLT(config)# **[no] ip route** *ip-address* **/** *Mask-length* **|** *ip-address-mask gateway-address distance-value*
Applicable view	config view
Function Description	This command is used to add or delete the static route of the OLT. Only one default static route can be configured.
<no>	means to delete.

ip-address	IP address. IP addresses are divided into five categories. Users can choose the appropriate IP subnet according to the actual situation. When the host address part is all 0 or all 1, it has a special effect and cannot be used as a general IP address. The format is xxxx.
Mask-length	Specifies the subnet mask length of the network segment interface, the value range is 0-32
ip-address-mask	Subnet mask in xxxx format.
gateway-address	Gateway IP address, in the format xxxx.
distance-value	The administrative distance that needs to be configured, ranging from 1 to 255.

【Configuration case】

Case 1: Configure the static default route of the OLT, the gateway is 192.168.2.253

```
OLT(config)# ip route 0.0.0.0 0.0.0.0 192.168.5.253
OLT(config)#
```

Case 2: Delete the static route of 192.168.3.0 255.255.255.0 on the OLT

```
OLT(config)# no ip route 192.168.3.0 255.255.255.0 192.168.5.1
OLT(config)#
```

16.2.View the routing table information of the OLT

Command syntax	OLT(config)# **show ip route**
Applicable view	config view
Function Description	This command is used to view the routing information on the OLT

【Configuration case】

Case 1: View routing information on the OLT

```
OLT(config)# show ip route
Routing Table : Public

Route Flags: R - relay, D - download to fib
Destination/Mask Proto Pre Cost Flags NextHop Interface
------------------------------------------------ ------------------
7.7.7.7/32 direct 0 0 D 127.0.0.1 Loopback1
101.0.0.0/24 direct 0 0 D 101.0.0.3 Vlanif300
```

```
101.0.0.3/32 direct 0 0 D 127.0.0.1 Vlanif300
127.0.0.1/32 direct 0 0 D 127.0.0.1 InLoop0
```

16.3.Set the gateway for the default route of olt

Command syntax	OLT(config)# **ip route-default gateway <ip>**
Applicable view	config view
Function Description	This command is used to set the default routing gateway of olt
ip	ip: olt default route gateway

【Configuration case】

Case 1 : Set the default routing gateway of olt to 192.168.5.1

```
OLT(config)# ip route-default gateway 192.168.5.1
```

16.4.Configure the default gateway of the network management port

Command syntax	OLT(config-interface-mgmt)# **default gateway ABCD**
Applicable view	mgmt view
Function Description	This command is used to configure the default gateway of the network management port

【Configuration case】

Case 1: Configure the default gateway of the mgmt port as 192.168.10.1

```
OLT(config-interface-mgmt)# default gateway 192.168.10.1
```

16.5.Configuring the OLT RIP function

16.5.1.Enabling and disabling RIP processes

Command syntax	OLT(config)# **router rip** OLT(config)# **no router rip**
Applicable view	config view
Function Description	Use the router rip command to enable the specified RIP process in the system view.

	Use the no router rip command to disable the specified RIP process. By default, the RIP process is disabled.

【Configuration case】

Case 1: Enable the RIP process .

```
OLT(config)# router rip
OLT(config)#
```

16.5.2.View the running status and configuration information of the RIP process

Command syntax	OLT(config)# **show ip rip**
Applicable view	enable view, config view, router rip view
Function Description	This command is used to view the current running status and configuration information of the RIP process.

【Configuration case】

Case 1: View the current running status and configuration information of the RIP process in the config view .

```
OLT# show ip rip
OLT(config)# show ip rip
---------------------------------------------- -------------
Codes: R - RIP, C - connected, S - Static, O - OSPF, B - BGP
Sub-codes:
(n) - normal, (s) - static, (d) - default, (r) - redistribute,
(i) - interface
---------------------------------------------- -------------
Network Next Hop Metric From Tag Time
R(n) 1.1.1.1/32 101.0.0.1 2 101.0.0.1 0 02:49
```

16.5.3.View the current running status and detailed information of the RIP process

Command syntax	OLT(config)# **show ip rip status**
Applicable view	enable view, config view, router rip view
Function	This command is used to view the current running status and detailed

Description	information of the RIP process.

【Configuration case】

Case 1: View the current running status and detailed information of the RIP process in the config view .

```
OLT#config
OLT(config)# show ip rip status
---------------------------------------------------- ------------
Routing Protocol is "rip"
Sending updates every 30 seconds with +/-50%, next due in 5 seconds
Timeout after 180 seconds, garbage collect after 120 seconds
Outgoing update filter list for all interface is not set
Incoming update filter list for all interface is not set
Default redistribution metric is 1
Redistributing: direct
Default version control: send version 2, receive any version
Interface Send Recv Key-chain
eth1.100 2 1 2
Routing for Networks:
101.0.0.0/24
102.0.0.0/24
Routing Information Sources:
Gateway BadPackets BadRoutes Distance Last Update
101.0.0.1 0 0 120 00:00:08
Distance: (default is 120)

Address Distance List
1.1.1.1/32 99
```

16.5.4.View the current route aggregation information of the RIP process

Command syntax	OLT(config)# **show ip rip summary**
Applicable view	config view, router rip view
Function Description	This command is used to view the current route aggregation information of the RIP process.

【Configuration case】

Case 1: View the current route aggregation information of the RIP process in the config

view .

```
OLT(config)# show ip rip summary
---------------------------------------------------- ------------------
Codes: R - RIP, C - connected, S - Static, O - OSPF, B - BGP
Sub-codes:
(n) - normal, (s) - static, (d) - default, (r) - redistribute,
(i) - interface
---------------------------------------------------- ------------------
4.0.0.0/8, Classfulsumm
R(n) 4.4.4.4/32, metric 2, nexthop 102.0.0.3
10.0.0.0/8, Classfulsumm
R(n) 10.0.0.0/24, metric 2, nexthop 102.0.0.3
15.0.0.0/8, Classfulsumm
R(n) 15.5.5.5/32, metric 2, nexthop 102.0.0.3
102.0.0.0/8, Classfulsumm
D(i) 102.0.0.0/24, metric 0, nexthop 0.0.0.0
103.0.0.0/8, Classfulsumm
R(n) 103.0.0.0/24, metric 1, nexthop 102.0.0.3
106.0.0.0/8, Classfulsumm
R(n) 106.0.0.0/24, metric 2, nexthop 102.0.0.3
7.7.0.0/16, Ifsumm, Vlanif200
D(r) 7.7.2.7/32, metric 0, nexthop 0.0.0.0
D(r) 7.7.3.7/32, metric 0, nexthop 0.0.0.0
D(r) 7.7.7.7/32, metric 0, nexthop 0.0.0.0
```

16.5.5.View the current neighbor information of the RIP process

Command syntax	OLT(config)# **show rip neighbor**
Applicable view	config view, router rip view
Function Description	This command is used to view the current neighbor information of the RIP process.

【Configuration case】

Case 1: View the current neighbor information of the RIP process in the config view .

```
OLT(config)# show rip neighbor
---------------------------------------------- ---------------------------------------------------- ---
IP Address Interface Type Last-Heard-Time
---------------------------------------------- ---------------------------------------------------- ---
102.0.0.3 vlanif200 2 00:00:19
Number of broadpackets : 0
```

```
Number of multicastpackets :68
Number of badroutes : 0
```

16.5.6.Configure the global RIP version

Command syntax	OLT(config-router)# **version { 1 | 2}** OLT(config-router)# **no version**
Applicable view	router rip view
Function Description	The version command is used to specify a global RIP version. Use the no version command to restore the default value of the global RIP version. By default, only RIP-2 packets are sent, but RIP-1 and RIP-2 packets can be received.
1	Specify the RIP-1 version
2	Specify the RIP-2 version

【Configuration case】

Case 1: Specify RIP to globally send and receive RIP-2 packets .

```
OLT(config)#router rip
OLT(config-router)# version 2
```

16.5.7.Adjust the timer value of RIP

Command syntax	OLT(config-router)# **Timers basic <update timer> <timeout timer> <Garbage collection timer>** OLT(config-router)# **no Timers basic <update timer> <timeout timer> <Garbage collection timer>**
Applicable view	router rip view
Function Description	The timers basic command is used to adjust the timers. The no timers basic command is used to restore the default value. By default, the interval for sending route update packets is 30 seconds, the aging time for routes is 180 seconds, and the time for routes to be deleted from the routing table is 120 seconds.
update time	Specifies the sending interval of routing update packets, the value range is 5-86400, the unit is seconds
timeout timer	Specifies the route aging time, in the range of 5-86400, in seconds
Garbage	The time at which the specified route is deleted from the routing

collection timer	table (garbage collection time defined in the standard) ranges from 5 to 86400, in seconds

【Configuration case】

Case 1: Set the value of each timer of RIP .

```
OLT(config)#router rip
OLT(config-router)# timers rip 35 170 240
```

16.5.8.Configure Equal Cost Routes

Command syntax	OLT(config-router)# **allow-ecmp** OLT(config-router)# **no allow-ecmp**
Applicable view	router rip view
Function Description	Use the allow-ecmp command to enable equal-cost routing. Use the no allow-ecmp command to enable equal-cost routing. By default, equal-cost routing is disabled.

【Configuration case】

Case 1: Enable equal-cost routing .

```
OLT(config)#router rip
OLT(config-router)# allow-ecmp
```

16.5.9.send default route

Command syntax	OLT(config-router)# **default-information originate [metric]** OLT(config-router)# **no default-information originate**
Applicable view	router rip view
Function Description	Use the default-information originate command to configure the current device to generate a default route or send the default route existing in the routing table to its neighbors. Use the no default-information originate command to restore the default. By default, the current device does not send default routes to neighbors.
metric	<0-16> , specify the cost of imported routes

【Configuration case】

Case 1: Enable to send the default route to neighbors .

```
OLT(config)#router rip
OLT(config-router)# default-information originate metric 5
```

16.5.10.Configure the default cost of imported routes

Command syntax	OLT(config-router)# **default-metric metric** OLT(config-router)# **no default-metric metric**
Applicable view	router rip view
Function Description	Use the default-metric command to configure the default cost of imported routes. Use the no default-metric command to restore the default cost of imported routes to the default value. By default, the default cost of imported routes is 1.
metric	Specifies the default cost of imported routes, in integer form, ranging from 1 to 16. The default value is 1.

【Configuration case】

Case 1: Set the cost of imported routes to 4 .

```
OLT(config)#router rip
OLT(config-router)# default metric 4
```

16.5.11.Configuring the Priority of RIP Routes

Command syntax	OLT(config-router)# **distance < distance > [network-address|WORD]*** OLT(config-router)# **no distance < distance > [network-address|WORD]***
Applicable view	router rip view
Function Description	Use the distance command to configure the priority of RIP routes. Use the no distance command to restore the default route priority. Configure the priority of all routes, and also configure the priority of routes on a specified network segment. By default, the default priority of RIP routes is 120.
distance	Specifies the priority of the route. Integer form, the value range is 1 to 255. The default value is 120
network-address	Specifies the address ABCD/M of the routing network segment, in dotted decimal format . Here must be IP source prefix
WORD	access list name

【Configuration case】

Case 1: Configure the priority of the RIP route as 90 .

```
OLT(config)#router rip
OLT(config-router)# distance 90
```

16.5.12.Enable RIP routing on the specified network segment

Command syntax	OLT(config-router)# **network {network-address|WORD}** OLT(config-router)# **no network {network-address|WORD}**
Applicable view	router rip view
Function Description	Use the network command to enable RIP routing on the specified network segment and interface. Use the no network command to disable RIP routing on the specified network segment and interface. By default, the specified network segment and interface are not enabled with RIP routing.
network-address	ABCD/M , specifies the network address and subnet mask to enable RIP. The address must be the address of the natural network segment, in dotted decimal form
WORD	interface name (eg vlanif 100)

【Configuration case】

Case 1: Enable RIP routing on the specified network segment 101.0.0.0 .

```
OLT(config)#router rip
OLT(config-router)# network 10.0.0.0/8
```

16.5.13.Configure the IP address of the specified RIP neighbor

Command syntax	OLT(config-router)# **neighbor ip-address** OLT(config-router)# **no neighbor ip-address**
Applicable view	router rip view
Function Description	The neighbor command is used to specify the IP address of the RIP neighbor. After this command is configured, the update packet is sent to the peer end in unicast form instead of normal multicast or broadcast form. Use the no neighbor command to delete the specified neighbor IP address. By default, the IP address of the RIP neighbor is not specified in the system.
ip-address	ABCD, specifies the IP address of the neighbor, in dotted decimal

	notation

【Configuration case】

Case 1: Set the neighbor IP address to 10.1.1.1 .

```
OLT(config)#router rip
OLT(config-router)# neighbor 10.1.1.1
```

16.5.14.Configuring Interface Suppression Status

Command syntax	OLT(config-router)# **passive-interface {IFNAME|default}** OLT(config-router)# **no passive-interface {IFNAME|default}**
Applicable view	router rip view
Function Description	Use the passive-interface command to suppress an interface so that it only receives packets and updates its routing table instead of sending RIP packets. Use the no passive-interface command to enable the RIP interface to send update packets. By default, interfaces are not suppressed.
IFNAME	Specify the interface name (eg Vlanif100)
default	Suppress all interfaces

【Configuration case】

Case 1: Set the specified interface vlanif100 to the inhibited state .

```
OLT(config)#router rip
OLT(config-router)# passive-interface Vlanif100
```

Case 2 : Set all interfaces to inhibit state .

```
OLT(config)#router rip
OLT(config-router)# passive-interface default
```

16.5.15.Configure to import routes from other routing protocols

Command syntax	OLT(config-router)# **redistribute {rip|QUAGGA_REDIST_STR_RIPD} [metric metric |route-map WORD]*** OLT(config-router)# **no redistribute {rip|QUAGGA_REDIST_STR_RIPD} [metric metric |route-map WORD]***
Applicable view	router rip view
Function Description	The redistribute command is used to configure imported routes from other routing protocols.

	The no redistribute command is used to cancel the import of routes from other routing protocols. By default, routes are not imported from other routing protocols.
QUAGGA_REDIST_STR_RIPD	(kernel|direct|static|ospf|isis|bgp|pim|babel), specifies the imported routing protocol type.
metric	Specifies the cost of imported routes
WORD	Specify import routing policy

【Configuration case】

Case 1: Import the IS-IS routing protocol and set its cost to 7 .

```
OLT(config)#router rip
OLT(config-router)# redistribute isis metric 7
```

Case 1: Import the ospf route that passes the routing policy abc, and set its cost to 7. When specifying the imported route, specify the routing policy name as abc .

```
OLT(config)#router rip
OLT(config-router)# redistribute ospf metric 7 route-map abc
```

16.5.16.Configure automatic aggregation

Command syntax	OLT(config-router)# **rip summary** OLT(config-router)# **no rip summary**
Applicable view	router rip view
Function Description	Use the rip summary command to configure the automatic aggregation function. Use the no rip summary command to delete the configured automatic aggregation function. By default, the automatic aggregation function is not enabled.

【Configuration case】

Case 1: Configure the automatic aggregation function .

```
OLT(config)#router rip
OLT(config-router)# rip summary
```

16.5.17.Configure the RIP version of the packets sent by the interface

Command syntax	OLT(config-interface-vlanif-100)# **ip rip send version {{1|2}|{1|2}}*** OLT(config-interface-vlanif-100)# **no ip rip send version {{1|2}|{1|2}}***
Applicable view	Interface view

Function Description	Use the ip rip send version command to configure the RIP version of the packets sent by the interface. Specifies to send RIP version 1 or 2, or 1 and 2 packets in broadcast mode. Use the no rip version command to restore the default configuration. By default, an interface only sends RIP-2 packets.
1	Specify the RIP-1 version
2	Specify the RIP-2 version

【Configuration case】

Case 1: Configure interface vlanif 100 to send RIP-2 packets .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ip rip send version 2
```

16.5.18.Configure the RIP version for receiving packets on an interface

Command syntax	OLT(config-interface-vlanif-100)# **ip rip receive version {{1|2}|{1|2}}*** OLT(config-interface-vlanif-100)# **no ip rip receive version {{1|2}|{1|2}}***
Applicable view	Interface view
Function Description	Use the ip rip receive version command to configure the RIP version of packets received by an interface. Specifies to receive RIP version 1 or 2, or 1 and 2 packets in broadcast mode. Use the no rip version command to restore the default configuration. By default, an interface receives RIP-1 and RIP-2 packets.
1	Specify the RIP-1 version
2	Specify the RIP-2 version

【Configuration case】

Case 1: Configure interface vlanif 100 to receive RIP-2 and RIP-1 packets .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ip rip receive version 2 1
```

16.5.19.Configuring the Split Horizon Function of RIP

Command syntax	OLT(config-interface-vlanif-100)# **ip rip split-horizon** OLT(config-interface-vlanif-100)# **no ip rip split-horizon**

Applicable view	Interface view
Function Description	Use the ip rip split-horizon command to enable the split horizon function of RIP. Use the no rip split-horizon command to disable the split horizon function of RIP. By default, the split horizon function of RIP is enabled.

【Configuration case】

Case 1: Enable the split horizon function on the interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ip rip split-horizon
```

16.5.20.Configuring the Poison Inversion Function of RIP

Command syntax	OLT(config-interface-vlanif-100)# **ip rip split-horizon poison-reverse** OLT(config-interface-vlanif-100)# **no ip rip split-horizon poisoned-reverse**
Applicable view	Interface view
Function Description	Use the ip rip split-horizon poison-reverse command to enable the poison reverse function of RIP. Use the no rip split-horizon poison-reverse command to disable the poison reverse function of RIP. By default, the poison inversion function is disabled.

【Configuration case】

Case 1: Enable the poison inversion function on the interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ip rip split-horizon poison-reverse
```

16.5.21.Configuring Manual Aggregation on an Interface

Command syntax	OLT(config-interface-vlanif-100)# **ip rip summary-address ABCD/M [avoid-feedback]** OLT(config-interface-vlanif-100)# **no ip rip summary-address ABCD/M**
Applicable view	Interface view
Function Description	Use the ip rip summary-address ABCD/M [avoid-feedback] command to enable manual aggregation on an interface. Use the no ip rip summary-address ABCD/M command to disable

	manual aggregation on an interface. By default, manual aggregation is disabled on an interface.
network-address	Specifies the network address and subnet mask to enable RIP. The address must be the address of the natural network segment, in dotted decimal form
avoid-feedback	Forbid the same aggregated route to be learned from this interface

【Configuration case】

Case 1: Enable the manual aggregation function on the interface vlanif200 .

```
OLT(config)# interface vlanif 200
OLT(config-interface-vlanif-200)# ip rip summary-address 7.7.0.0/16
```

16.5.22.View brief information about interface status and configuration

Command syntax	OLT(config-router)# **show rip ip interface brief**
Applicable view	router rip view
Function Description	This command is used to view brief information about the interface status and configuration.

【Configuration case】

Case 1: View brief messages of interface status and configuration .

```
OLT(config)#router rip
OLT(config-router)# show rip ip interface brief
Interface IP Address/Mask Protocol
---------------------------------------------
mgmt0/0 192.168.20.27/24 UP
loopback3 7.7.3.7/32 UP
loopback2 7.7.2.7/32 UP
loopback1 7.7.7.7/32 UP
inLoop0 127.0.0.1/32 UP
vlanif200 102.0.0.7/24 UP
---------------------------------------------
```

16.5.23.View interface status and configuration details

Command	OLT(config-router)# **show rip ip interface verbose [IFNAME]**

syntax	
Applicable view	router rip view
Function Description	This command is used to view the interface status and configuration details.
verbose	Specifies to view the detailed information of the RIP interface
IFNAME	Specify the interface type and number

【Configuration case】

Case 1: View the status and configuration details of the specified interface eth1.100 .

```
OLT(config)#router rip
OLT(config-router)# show rip ip interface verbose eth1.100
------------------------------------------------- ---------
Vlanif100 eth1.100 current state: UP
Internet Address is 101.0.0.1/24
Internet Address is fe80::e267:b3ff:fe00:152/64
The Maximum Transmit Unit is 1500 bytes
Index: 131172 Knetindex: 7
Network : enables
Interface :disable
Running :yes
Send :version 2
Receive :version 1&2
Auth_type :none
Auth_str : null
Key_chain :null
Md5_auth_len: 20
Recv_badpackets : 0
Recv_badroutes: 0
Sent_updates :4
Passive :no
------------------------------------------------- ------------
```

16.6.Configuring the OLT OSPF function

16.6.1.View the current running status and configuration information of the OSPF process

Command syntax	OLT# **show ospf**

Applicable view	enable view
Function Description	This command is used to view the current running status and configuration information of the OSPF process.

【Configuration case】

Case 1: View the current running status and configuration information of the OSPF process .

```
OLT # show ospf

OSPF Routing Process, Router ID: 7.7.7.7
Supports only single TOS (TOS0) routes
This implementation conforms to RFC2328
RFC1583Compatibility flag is disabled
OpaqueCapability flag is disabled
Initial SPF scheduling delay 200 millisec(s)
Minimum hold time between consecutive SPFs 1000 millisec(s)
Maximum hold time between consecutive SPFs 10000 millisec(s)
Hold time multiplier is currently 1
SPF algorithm has not been run
SPF timer is inactive
Refresh timer 10 secs
Number of external LSA 0. Checksum Sum 0x00000000
Number of opaque AS LSA 0. Checksum Sum 0x00000000
Number of areas attached to this router: 0

OLT #
```

16.6.2.Configure the OSPF process

Command syntax	OLT(config)# **ospf** OLT(config)# **no ospf**
Applicable view	config view
Function Description	ospf command to start the specified OSPF process in the system view. no Use the ospf command to shut down the specified OSPF process. By default, the OSPF process is disabled .

【Configuration case】

Case 1: Start the OSPF process .

```
OLT(config)# ospf

OLT(config-ospf)#
```

16.6.3.Querying OSPF Border Router Information

Command syntax	OLT(config)# **show ospf border-routers**
Applicable view	config view , ospf view
Function Description	This command is used to display OSPF border router information.

【Configuration case】

Case 1: View OSPF border router information in the config view .

```
OLT (config) # show ospf border-routers

          OLT(config)# show ip ospf border-routers
        ============= OSPF router routing table =============
          R 3.3.3.3 [10] area: 0.0.0.0, ASBR
          via 102.0.0.3, vlanif400

OLT (config) #
```

16.6.4.Query the current link state database information of the OSPF process

Command syntax	OLT(config)# **show ospf lsdb [(asbr-summary | external | network | nssa-external |opaque-area|opaque-as|opaque-link|router|summary)[ip-address] [adv-router ip-address |self-originate]|max-age|self-originate]**
Applicable view	config view , ospf view
Function Description	This command is used to view the current link state database information of the OSPF process.
asbr-summary	Display information about type-4 LSAs
external	Display information about type-5 LSAs
network	Display information about type-2 LSAs
nssa-external	Display information about type-7 LSAs
opaque-area	Displays Opaque-LSA information connected to the area
opaque-as	Display information about Opaque-LSAs connected to AS autonomous areas

opaque-link	Display information about Opaque-LSA connected locally
router	Display information about type-1 LSAs
summary	Display information about type-3 LSAs
max-age	Displays a list of the maximum aging time of LSAs
self-originate	View the router LSA connected to the physical port of the router
ip-address	View the LSA information corresponding to the IP address
adv-router	View the LSA information corresponding to the advertising router

【Configuration case】

Case 1: View the current link state database information of the OSPF process in the config view .

```
OLT (config) # show ospf lsdb

          OSPF Router with ID (2.2.2.2)

          Router Link States (Area 0.0.0.0)

          Link ID ADV Router Age Seq# CkSum Link count
          2.2.2.2 2.2.2.2 876 0x80000007 0x3230 1
          3.3.3.3 3.3.3.3 284 0x80000007 0x54a8 1

          Net Link States (Area 0.0.0.0)

          Link ID ADV Router Age Seq# CkSum
          102.0.0.2 2.2.2.2 926 0x80000004 0xd2ff

          Summary Link States (Area 0.0.0.0)

          Link ID ADV Router Age Seq# CkSum Route
          6.6.6.6 3.3.3.3 273 0x80000002 0xf93e 6.6.6.6/32
          101.0.0.0 2.2.2.2 325 0x80000006 0x637d 101.0.0.0/24

OLT (config) #
```

16.6.5.Querying Interface Details of an OSPF Process

Command syntax	OLT(config)# **show ospf interface [INTERFACE]**
Applicable view	config view , ospf view

Function Description	This command is used to view the interface details of the OSPF process.
INTERFACE	(vlanif <1-4094>|loopback <1-1023>), check the information about the specific interface name of ospf

【Configuration case】

Case 1: View the interface details of the OSPF process in the config view .

```
OLT(config)# show ospf interface
vlanif100 is down
ifindex 131172, MTU 1500 bytes, BW 0 Kbit <BROADCAST,MULTICAST>
OSPF not enabled on this interface
vlanif3000 is up
ifindex 134072, MTU 1500 bytes, BW 0 Kbit <UP,BROADCAST,RUNNING,MULTICAST>
OSPF not enabled on this interface
vlanif2000 is down
ifindex 133072, MTU 1500 bytes, BW 0 Kbit <BROADCAST,MULTICAST>
OSPF not enabled on this interface
vlanif1000 is down
ifindex 132072, MTU 1500 bytes, BW 0 Kbit <BROADCAST,MULTICAST>
OSPF not enabled on this interface
vlanif500 is down
ifindex 131572, MTU 1500 bytes, BW 0 Kbit <BROADCAST,MULTICAST>
OSPF not enabled on this interface
vlanif300 is up
ifindex 131372, MTU 1500 bytes, BW 0 Kbit <UP,BROADCAST,RUNNING,MULTICAST>
OSPF not enabled on this interface
vlanif200 is down
ifindex 131272, MTU 1500 bytes, BW 0 Kbit <BROADCAST,MULTICAST>
OSPF not enabled on this interface
vlanif10 is up
ifindex 131082, MTU 1500 bytes, BW 0 Kbit <UP,BROADCAST,RUNNING,MULTICAST>
OSPF not enabled on this interface
loopback1 is up
ifindex 65537, MTU 16436 bytes, BW 0 Kbit <UP,LOOPBACK,RUNNING>
OSPF not enabled on this interface
--More ( Press 'Q' to quit )--
```

16.6.6.Query the current neighbor information of the OSPF process

Command syntax	OLT(config)# **show ospf peer [ip-address|IFNAME|all|verbose [all]]**
Applicable view	config view , ospf view

Function Description	This command is used to view the current neighbor information of the OSPF process.
ip-address	Display neighbor information by ID number
IFNAME	Display neighbor information connected to an interface
all	Display neighbor information including down state
verbose	Show details of all neighbors

【Configuration case】

Case 1: View the current neighbor information of the OSPF process in the config view .

```
OLT (config) # show ospf peer

Neighbor ID Pri State Dead Time Address Interface RXmtL RqstL DBsmL

OLT (config) #
```

16.6.7.View the routing table of the OSPF process

Command syntax	OLT(config)# show ospf route
Applicable view	config view , ospf view
Function Description	This command is used to view the routing table of the OSPF process.

【Configuration case】

Case 1: View the routing table of the OSPF process in the config view .

```
OLT (config) # show ospf route

          OLT(config)# show ospf route
          =========== OSPF network routing table ===========
          N IA 6.6.6.6/32 [10] area: 0.0.0.0
          via 102.0.0.3, eth1.400
          N 101.0.0.0/24 [10] area: 0.0.0.1
          directly attached to eth1.300
          N 102.0.0.0/24 [10] area: 0.0.0.0
          directly attached to eth1.400

          ============= OSPF router routing table =============
          R 3.3.3.3 [10] area: 0.0.0.0, ABR, ASBR
          via 102.0.0.3, eth1.400
```

```
          ========== OSPF external routing table ==========
          N E1 12.12.12.0/24 [11] tag: 1
          via 102.0.0.3, eth1.400

OLT (config) #
```

16.6.8.Configure area

Command syntax	OLT(config-ospf)# **area area-ID** OLT(config-ospf)# **no area area-ID**
Applicable view	ospf view
Function Description	The area area-ID command is used to create an area. The no area area-ID command is used to destroy an area. By default, no area is created.
area-ID	Specify the area in numerical form, the value range is <0-4294967295>, or specify the area in dotted decimal form

【Configuration case】

Case 1: Create a backbone area area 1 .

```
OLT(config-ospf)# area 1

OLT(config-ospf-area-0.0.0.1)#
```

16.6.9.Adjust the cost reference value

Command syntax	OLT(config - ospf)# **bandwidth-reference <bandwidth>** OLT(config-ospf)# **no bandwidth-reference**
Applicable view	ospf view
Function Description	Use the bandwidth-reference command to adjust the overhead reference value. The no bandwidth-reference command is used to restore the default cost reference value. By default, the overhead reference value is 100Mbps.
bandwidth	Reference value, the reference bandwidth is measured in megabits per second, the value range is <1-4294967>

【Configuration case】

Case 1: Adjust the OSPF cost reference value to 200 .

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

```
OLT(config-ospf)# bandwidth-reference 200
```

16.6.10.Configuring OSPF to Republish Routes

Command syntax	OLT(config-ospf)# **default-route-advertise [always][cost <cost>|type{1|2}]** OLT(config-ospf)# **no default-route-advertise**
Applicable view	ospf view
Function Description	The default-route-advertise command is used to configure OSPF to republish the default route. The default-route-advertise always command is used to force the advertisement of a default route even if there is no default route in the routing table. Use the no default-route-advertise command to delete the default route. By default, the republished route is the second type of external route, that is, the default type is 2.
cost	The cost of republishing the route. The value range is 1～16777214
type	Specifies the type of republished route

【Configuration case】

Case 1: Forcibly advertise a default route .

```
OLT(config-ospf)# default-route-advertise always

OLT(config-ospf)#
```

16.6.11.Configure the default cost of imported routes

Command syntax	OLT(config-ospf)# **default cost <cost>** OLT(config-ospf)# **no default cost**
Applicable view	ospf view
Function Description	Use the default cost command to configure the default cost of imported routes. Use the no default cost command to restore the default cost of imported routes to the default value. By default, the default cost of imported routes is 10.
cost	The cost of republishing the route. The value ranges from 1 to 16777214, in integer form, the default value is 1

【Configuration case】

Case 1: Set the cost of imported routes to 4 .

```
OLT(config-ospf)# default cost 1

OLT(config-ospf)#
```

16.6.12.Configuring the Priority of OSPF Routes

Command syntax	OLT(config-ospf)# **preference [priority|ospf {external priority|inter-area priority|intra-area priority}*]** OLT(config-ospf)# **no preference [priority|ospf{external|inter-area|intra-area}*]**
Applicable view	ospf view
Function Description	Use the preference command to configure the priority of OSPF routes. Use the no preference command to restore the default value of route preference. Configure the priority of all routes, and also configure the priority of routes on a specified network segment. By default, the default priority of OSPF routes is 110.
external	The cost of republishing the route. The value range is 1～16777214
inter-area	Specifies the priority of all routes from one area to another, the default value is 110
Intra-area	Specifies the priority of routes in the area, the default value is 110
priority	Priority, value range <1-255>

【Configuration case】

Case 1: Configure the priority of OSPF external routes to 90 .

```
OLT(config)# ospf
OLT( config-ospf )# preference ospf external 90
```

16.6.13.An LSA that advertises its own SPF database

Command syntax	OLT(config-ospf)# **max-cost router-lsa {administrative|on-shutdown cost|on-startup <cost>}** OLT(config-ospf)# **no max-cost router-lsa{administrative|on-shutdown|on-startup}**
Applicable view	ospf view

Function Description	The max-cost router-lsa command is used to advertise the LSA of its own SPF database with the maximum metric value, and neighbors will naturally choose other paths with lower cost.
router-lsa	Announcing its own router-LSA with infinite distance
administrative	Application management, unlimited distance
on-shutdown	Release stub routers before turning off OSPF completely
on-startup	Automatically publish stub Router-LSA at startup
cost	Overhead value, the value range is <5-86400>

【Configuration case】

Case 1: The router advertises the LSA of its own SPF database with the maximum metric value of 65535 .

```
OLT(config)# ospf
OLT( config-ospf )# max-cost router-lsa on-startup 65535
```

16.6.14.Configure to import routes from other routing protocols

Command syntax	OLT(config-ospf)# **import-route {QUAGGA_REDIST_STR_OSPFD} [cost <cost>|type [1|2]]*** OLT(config-ospf)# **no import-route {QUAGGA_REDIST_STR_OSPFD}**
Applicable view	ospf view
Function Description	The import-route command is used to configure importing routes from other routing protocols. The no import-route command is used to cancel the import of routes from other routing protocols. By default, routes are not imported from other routing protocols.
QUAGGA_REDIST_STR_OSPFD	(direct|static|ospf|isis|rip|bgp), specifies the imported routing protocol type
cost	Specifies the cost of imported routes, ranging from 0 to 16777214
type	Specifies the cost calculation type of imported routes

【Configuration case】

Case 1: Import the IS-IS routing protocol and set its cost to 7 .

```
OLT(config)# ospf
OLT( config-ospf )# import-route isis metric 7
```

16.6.15.Configure the IP address of the OSPF neighbor

Command syntax	OLT(config-ospf)# **peer ip-address [poll-intervalSeconds][priority priority]** OLT(config-ospf)# **no peer ip-address [poll-interval Seconds|priority priority]**
Applicable view	ospf view
Function Description	Use the peer command to specify the IP address of an OSPF neighbor. After this command is configured, the update packet is sent to the peer end in unicast form instead of normal multicast or broadcast form. Use the no peer command to delete the specified neighbor IP address. By default, the IP address of the OSPF neighbor is not specified in the system.
ip-address	Specifies the IP address of the neighbor, in dotted decimal notation
poll-interval	Neighbor death polling interval, the value range is <1-65535>
priority	Neighbor priority, value range <0-255>

【Configuration case】

Case 1: Set the neighbor IP address to 10.1.1.1 .

```
OLT(config)# ospf
OLT( config-ospf )# peer 10.1.1.1
```

16.6.16.Configure the router ID of the current OSPF process

Command syntax	OLT(config-ospf)# **router-id ip-address** OLT(config-ospf)# **no router-id**
Applicable view	ospf view
Function Description	The router-id command is used to set the router id of the current ospf process. The no router-id command is used to restore the default router id. By default, the router id is selected from the interface IP address.
ip-address	set router id

【Configuration case】

Case 1: Configure the router id as 1.1.1.1 .

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

```
OLT( config-ospf )# router-id 1.1.1.1
```

16.6.17.Configuring Interface Suppression Status

Command syntax	OLT(config-ospf)# **silent-interface {IFNAME|default}** OLT(config-ospf)# **no silent-interface {IFNAME|default}**
Applicable view	ospf view
Function Description	The silent-interface command is used to suppress the interface so that it only receives packets to update its routing table, but does not send OSPF packets. Use the no silent-interface command to enable the OSPF interface to send update packets. By default, interfaces are not suppressed.
IFNAME	(vlanif <1-4094>|loopback <1-1023>), specifies the interface name to suppress
default	Suppress all interfaces

【Configuration case】

Case 1: Set the specified interface vlanif100 to the inhibited state .

```
OLT(config)# ospf
OLT( config-ospf )# silent-interface Vlanif100
```

Case 2 : Set all interfaces to inhibit state .

```
OLT(config)# ospf
OLT( config-ospf )# passive-interface default
```

16.6.18.Adjust the spf calculation time of ospf

Command syntax	OLT(config-ospf)# **spf-schedule-interval <Delay1> <Delay2> <Delay3>** OLT(config-ospf)# **no spf-schedule-interval**
Applicable view	ospf view
Function Description	The spf-schedule-interval command is used to adjust the spf calculation time of ospf. Delay1 represents the delay to wait for the first topology calculation. Delay2 indicates the initial time for two SPF calculations, after which the next topology calculation is performed. Delay3 plays a protective role. If the topology changes frequently during the waiting time, the delay time waiting for each next SPF calculation will be doubled. However, the maximum value of this value cannot exceed the third value.

	These values ensure that frequent SPF calculations will not be performed when the network changes frequently, and CPU resources are protected. By default, the delay time is 5s, and the spf interval time is 10s
Delay1	The delay time from receiving the change for the first time to SPF calculation, the value range is <0-600000>
Delay2	Initial hold time between consecutive SPF calculations, the value range is <0-600000>
Delay3	Maximum hold time, value range <0-600000>

【Configuration case】

Case 1: Modify the delay time to 10s, the SPF calculation interval to 20s, and the maximum interval to 100s .

```
OLT(config)# ospf
OLT( config-ospf )# spf-schedule-interval 10 20 100
```

16.6.19.route summary

Command syntax	OLT(config-ospf -area-0.0.0.1)# **abr-summary ip-address <mask> [advertise[cost COST]|cost COST|not-advertise|substitute ip-address mask]** OLT(config-ospf -area-0.0.0.1)# **no abr-summary ip-address <mask> [advertise[cost COST]|cost COST|not-advertise|substitute ip-address mask]**
Applicable view	area view
Function Description	The abr-summary command is used to perform route summary. Use the no abr-summary command to cancel route summarization. By default, no route summary is performed in this area.
ip-address	website address
<mask>	mask
advertise	advertise this range
COST	Specifies the range of the cost value of the aggregated network <0-16777215>
not-advertise	Do not advertise this range
substitute	Announce area scope as another prefix

ip-address	Convert the address range to this address announcement
mask	Convert the address range to this address mask declaration

【Configuration case】

Case 1: Summarize the 102.0.10.0 network segment in this area (area 1) .

```
OLT(config)# ospf
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# abr-summary 102.0.10.0 255.255.255.0
```

16.6.20.Configure cost value

Command syntax	OLT(config-ospf -area-0.0.0.1)# **default-cost <cost>** OLT(config-ospf -area-0.0.0.1)# **no default-cost <cost>**
Applicable view	area view
Function Description	Use the default-cost command to configure the summary-default cost of an NSSA or stub area. Use the no default-cost command to restore the default cost. By default, the cost of the Type 3 default route sent to the STUB area or the NSSA area is 10.
cost	Overhead value, the value range is <0-16777215>

【Configuration case】

Case 1: Configure the cost value to 10 .

```
OLT(config)# ospf
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# default-cost 10
```

16.6.21.Configure the NETWORK area

Command syntax	OLT(config-ospf -area-0.0.0.1)# **network ip-address ip-mask** OLT(config-ospf -area-0.0.0.1)# **no network ip-address ip-mask**
Applicable view	area view
Function Description	The network command is used to enable the ospf protocol in a specific network. Use the no network command to cancel the ospf protocol of the network. By default, ospf is not run on any network.
ip-address	network number

ip-mask	wildcard mask

【Configuration case】

Case 1: Enable the ospf protocol on the 102.0.0.3 interface network segment .

```
OLT(config)# ospf
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# network 102.0.0.3 0.0.0.255
```

16.6.22.Configuring NSSA Zones

Command syntax	OLT(config-ospf -area-0.0.0.1)# **nssa [translate-always|translate-candidate|translate-never] [no-summary]** OLT(config-ospf -area-0.0.0.1)# **no nssa [no-summary]**
Applicable view	area view
Function Description	The nssa command is used to configure the local area as nssa area related settings. Use the no nssa command to cancel the nssa configuration in the local area. By default, no special area is configured for this area.
translate-always	Configure NSSA-ABR to always translate
translate-candidate	Configuring NSSA-ABR for Transition Election
translate-never	Configure NSSA-ABR not to convert
no-summary	Do not inject inter-area routes into nssa

【Configuration case】

Case 1: Configure this area (area 1) as an nssa area .

```
OLT(config)# ospf
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# nssa
```

16.6.23.Configure STUB area

Command syntax	OLT(config-ospf -area-0.0.0.1)# **stub [no-summary]** OLT(config-ospf -area-0.0.0.1)# **no stub [no-summary]**
Applicable view	area view

Function Description	Use the stub command to configure this area as the stub area related settings. Use the no stub command to cancel the stub configuration in this area. By default, no special area is configured for this area.
no-summary	Do not inject inter-area routes into stubs

【Configuration case】

Case 1: Configure this area (area 1) as a stub area .

```
OLT(config)# ospf
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# stub
```

16.6.24.Configure virtual connections

Command syntax	OLT(config-ospf -area-0.0.0.1)# **virtual-peer router-id [dead dead-interval|hello hello-interval|retransmit retransmit-interval|transmit-delay trans-delay-interval]*** OLT(config-ospf -area-0.0.0.1)# **no virtual-peer router-id [dead|hello|retransmit|transmit-delay]***
Applicable view	area view
Function Description	The virtual-peer command is used to establish a virtual connection. The no virtual-peer command is used to cancel the virtual connection. By default, no virtual connection is established. This command is used on abr and its adjacent non-backbone area routers to extend the backbone area.
router-id	Router ID of the remote ABR
dead	The time interval when the neighbor is declared dead, the value range is <1-65535>
hello	Time interval between HELLO packets, the value range is <1-65535>
retransmit	The time interval for retransmission of lost lsa, the value range is <1-65535>
transmit-delay	Link state transmission delay, value range <1-65535>

【Configuration case】

Case 1: Virtually connect this area (area 1) to 1.1.1.1 .

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

```
OLT( config-ospf )# area 1
OLT( config-ospf -area-0.0.0.1)# virtual-peer 1.1.1.1
```

16.6.25.Configure Interface Overhead

Command syntax	OLT(config-interface-vlanif-100)# **ospf cost COST** OLT(config-interface-vlanif-100)# **no ospf cost [COST]**
Applicable view	Interface view
Function Description	Use the ospf cost command to modify the interface cost. Use the no ospf cost command to restore the default interface cost. By default, the interface cost is 10.
COST	Set the interface cost value, the value range is <1-65535>

【Configuration case】

Case 1: Configure the interface cost as 1 on the interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf cost 1
```

16.6.26.Configure Interface Priority

Command syntax	OLT(config-interface-vlanif-100)# **ospf dr-priority Priority** OLT(config-interface-vlanif-100)# **no ospf dr-priority**
Applicable view	Interface view
Function Description	Use the ospf dr-priority command to modify the port priority. Use the no ospf dr-priority command to restore the default port priority. By default, the port priority is 1, and a router with a priority of 0 cannot become a DR or BDR.
Priority	Port priority, the value range is <0-255>

【Configuration case】

Case 1: Modify the port priority to 10 on the interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf dr-priority 10
```

16.6.27.Configure the mtu mismatch detection function

Command syntax	OLT(config-interface-vlanif-100)# **ospf mtu-ignore** OLT(config-interface-vlanif-100)# **no ospf mtu-ignore**

Applicable view	Interface view
Function Description	The ospf mtu-ignore command is used to disable mtu mismatch detection. The no ospf mtu-ignore command is used to un-disable mtu mismatch detection. By default, mtu mismatch detection is performed. If the mtu of this port is inconsistent with that of the other port, the neighbor relationship will fail to be established.

【Configuration case】

Case 1: Disable mtu mismatch detection on interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf mtu-ignore
```

16.6.28.Configure the network type of the interface under the OSPF protocol

Command syntax	OLT(config-interface-vlanif-100)# **ospf network [broadcast|non-broadcast|point-to-multipoint|point-to-point]** OLT(config-interface-vlanif-100)# **no ospf network**
Applicable view	Interface view
Function Description	Use the ospf network command to specify the network type of the interface under OSPF. Use the no ospf network command to cancel the specified network type. By default, the network type is not specified, and the network type is determined according to the actual situation.
broadcast	Specifies that the interface is a broadcast multi-access network under the OSPF protocol
non-broadcast	Specifies that the interface is a non-broadcast multi-access network under OSPF
point-to-multipoint	Specifies that the interface is a point-to-multipoint network under the OSPF protocol
point-to-point	Specifies that the interface is a point-to-point network under the OSPF protocol

【Configuration case】

Case 1: On the interface vlanif100, specify that the interface is a broadcast multi-access

network under the OSPF protocol .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf network broadcast
```

16.6.29.Configuring the Expiration Time of Neighbor Relationships

Command syntax	OLT(config-interface-vlanif-100)# **ospf timer dead dead-interval** OLT(config-interface-vlanif-100)# **no ospf timer dead**
Applicable view	Interface view
Function Description	Use the ospf timer dead command to set the neighbor dead time. The no ospf timer dead command restores the default expiration time. By default, the failure time of a neighbor is 4 times the time for sending a hello packet.
dead-interval	Neighbor relationship expiration time

【Configuration case】

Case 1: Set the neighbor failure time to 20s on the interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf timer dead 20
```

16.6.30.Configure the interval for sending hello packets under OSPF

Command syntax	OLT(config-interface-vlanif-100)# **ospf timer hello hello-interval** OLT(config-interface-vlanif-100)# **no ospf timer hello**
Applicable view	Interface view
Function Description	Use the ospf timer hello command to modify the interval for sending hello packets. Use the no ospf timer hello command to restore the default sending interval. By default, the interval for sending Hello packets on P2P and Broadcast interfaces is 10 seconds; the interval for sending Hello packets on P2MP and NBMA interfaces is 30 seconds.
hello-interval	Time interval for sending hello packets

【Configuration case】

Case 1: Modify the hello packet sending interval to 5s on interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf timer hello 5
```

16.6.31.Configure the interval for retransmission of lost link status under OSPF protocol

Command syntax	OLT(config-interface-vlanif-100)# **ospf timer retransmit retransmit-interval** OLT(config-interface-vlanif-100)# **no ospf timer retransmit**
Applicable view	Interface view
Function Description	Use the ospf timer retransmit command to modify the interval for retransmitting the lost link status. The no ospf timer retransmit command is used to restore the default interval for retransmitting the lost link state. By default, 5 seconds is specified for the retransmission of the link state advertisement to the adjacent nodes of the interface.
retransmit-interval	Time interval for retransmission of lost link status, value range <3-65535>

【Configuration case】

Case 1: The time interval for modifying the retransmission lost link status on the interface vlanif100 is 10 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf timer retransmit 10
```

16.6.32.Configure the interval for retransmission of lost link status under OSPF protocol

Command syntax	OLT(config-interface-vlanif-100)# **ospf transmit-delay transmit-delay-interval** OLT(config-interface-vlanif-100)# **no ospf transmit-delay**
Applicable view	Interface view
Function Description	Use the ospf transmit-delay command to configure the transmission delay of LSAs on an OSPF interface. Use the no ospf transmit-delay command to restore the default LSA transmit delay. By default, the delay in sending LSAs on an OSPF interface is 1 second.
transmit-delay-interval transmit-delay-i	LSA sending delay, the value ranges from 1 to 65535, the default value is 1 second

nterval	

【Configuration case】

Case 1: Configure the OSPF interface LSA sending delay as 3s on interface vlanif100 .

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# ospf transmit-delay 3
```

17.Multicast Module Configuration

17.1.Configuring the Quick Leave Function of IGMP

Command syntax	OLT(config)# **igmp fast-leave {on|off}**
Applicable view	config view
Function Description	igmp fast-leave off: Turn off the igmp-snooping quick leave function. After the igmp-snooping fast leave function is disabled, the ONT needs to send a specific group query to confirm the user's online status after receiving the user's multicast leave message. If the specific group query period times out, the ONT still does not receive a report from the user. message, the user is considered offline and the local multicast entry is updated. Use this parameter when the user does not need to switch channels at a faster speed igmp fast-leave on: Turn on the igmp-snooping quick leave function. After the igmp-snooping fast leave function is enabled, after receiving the multicast leave message, the ONT immediately updates the local multicast entry according to the multicast leave message without sending a specific group query message to confirm whether the user is indeed offline. . This parameter is used when the user needs to switch channels at a faster speed.
on |off	off : Turn off the quick-off function of the OLT's igmp . on : Enable the quick leave function of the igmp of the OLT.

【Configuration case】

Case 1: Enable the quick leave function of igmp of OLT

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

OLT(config)#
```

17.2.the mode of IGMP

Command syntax	OLT(config)# **igmp mode {snooping|proxy|disable}**
Applicable view	config view
Function Description	This command is used to configure the mode of IGMP
snooping|proxy|disable	igmp mode snooping Set the IGMP mode of the multicast VLAN to IGMP snooping. IGMP snooping is multicast snooping. IGMP snooping obtains relevant information and maintains multicast forwarding entries by listening to IGMP messages communicated between users and multicast routers. The system does nothing to the multicast packets belonging to the multicast VLAN, but only transmits them transparently. igmp mode proxy: Set the IGMP mode of the multicast VLAN to IGMP proxy. IGMP proxy is a multicast proxy. The IGMP proxy intercepts and processes the IGMP messages between the user and the multicast router, and then forwards them to the upper-layer multicast router. From the perspective of users, the system is equivalent to a multicast server; from the perspective of upper-layer devices, the system is equivalent to a multicast user. The IGMP proxy mode reduces the traffic of multicast protocol packets on the network side. igmp mode disable: disable multicast function

【Configuration case】

Case 1: Configure the IGMP mode of the OLT as proxy

```
OLT(config)# igmp mode proxy

OLT(config)#
```

17.3.Configuring IGMP Proxy Parameters

Command syntax	OLT(config)# **igmp proxy {gen_interval|gen_response|robustness|source-ip|sp_count|sp_interval| sp_response}**
Applicable view	config view
Function	This command is used to configure IGMP Proxy parameters

Description	
gen_interval|gen_response|robustness|source-ip|sp_count|sp_interval|sp_response	The gen_interval - General query interval || command is used to set the general group query interval. The system confirms whether a user is watching a program by sending a general group query for all programs. If the system does not receive the report message from the user, it is considered that the user has not watched the program, and the program stream will not be sent any more. To avoid wasting bandwidth when users still receive multicast streams when they do not watch programs. gen_response - General query max response time || command is used to set the maximum response time of general group query robustness - Robustness keyword || command is used to set the robustness coefficient of the system. This command can be used when the user wants to adjust the robustness coefficient according to the stability of the network. After setting, the system uses this robustness coefficient to confirm the aging time of multicast users. The robustness factor is a factor set to enhance the robustness of the system. It directly affects the aging time of multicast users, and also affects the number of times that general group query packets are sent. If a subnet may lose packets, the robustness factor should be increased to ensure the stability of multicast users. source-ip - Source ip of igmp proxy message ||This command is used to configure the source IP address of the general group query message or the specific group query message sent by the multicast router to the user side. If this address is not specified, the system uses the default IP address as the source address to send general group query packets or specific group query packets. The sp_count - igmp s pecific query count || command is used to set the number of queries for a specific group. For a specific program, the system confirms whether the user is watching the program by sending a specific group query N times (N is set by this command). The program stream is no longer sent to the user, so that the user does not watch the program but still receives the multicast stream and wastes bandwidth. The sp_interval - Specific query interval || command is used to set the query interval for a specific group. For a specific program, the system sends a specific group query at the interval set by this

	command to confirm whether the user is watching the program. If no report message is received from the user, it is considered that the user is not watching the program, and the system will no longer send the program. The program stream is sent to the user to avoid wasting bandwidth due to the user receiving the multicast stream without watching the program. sp_response - Specific query max response time || command is used to set the maximum response time of a specific group query

【Configuration case】

Case 1: Configure the specific group query times of igmp proxy as 1, the general group query interval as 250, the general group maximum response time as 10, and the robustness coefficient 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)#
```

17.4.Configuring the Forwarding Policy for Multicast Protocol Packets

Command syntax	OLT(config)#igmp policy **{discard|pass}**
Applicable view	config view
Function Description	This command is used to configure the forwarding policy of multicast protocol packets.
discard|pass	discard: Discard multicast protocol packets . pass : Multicast protocol packets are set to transparent transmission mode .

【Configuration case】

Case 1: Set unknown multicast protocol packets to discard

```
OLT(config)# igmp policy discard
```

```
OLT(config)#
```

17.5.Enable igmp query function

Command syntax	OLT(config)# **igmp querier (enable|disable)**
Applicable view	config view
Function Description	enable/disable igmp querier
enable/disable	disable: Disable the igmp querier function. enable: Enable the igmp querier function .

【Configuration case】

Case 1: Enable igmp querier function

```
OLT(config)# igmp querier enable
OLT (config) #
```

17.6.View igmp configuration information

Command syntax	OLT(config)# **show igmp config**
Applicable view	config view, multicast vlan view
Function Description	This command is used to view the configuration information of igmp. Including whether igmp is turned on, whether the quick leave function is turned on, port aging time, igmp maximum response time, query interval, source ip address.

【Configuration case】

Case 1: Query the configuration information of igmp.

```
OLT(config)# show igmp config
---------------------------------------------- ----------------------------------------
Global config:
Igmp mode : proxy
Igmp policy : Discard
Fast leave : On
---------------------------------------------- ----------------------------------------
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)#
```

17.7.View OLT Multicast Entries

Command syntax	OLT(config)# **show igmp group {all |ip-address <IP address> |vlan < vlan -id>}**
Applicable view	config view, multicast vlan view
Function Description	This command is used to view the formed multicast entries
all	all: View all multicast entries
<IP-address>	IP-address: View the multicast entry of the specified channel IP.
<vlan-id>	vlan-id: View the multicast entries of the specified vlan.

【Configuration case】

Case 1: View all multicast entries of the OLT

```
OLT(config)# show igmp group all
ERROR : There is not any group address record.

OLT(config)#
```

17.8.Configure igmp static group rules

Command syntax	OLT(config)# **igmp static-group ip < IP address> vlan <VLAN ID> port [gpon|ge|xge] <F/S> <port -list >**
Applicable view	config view
Function Description	Configure igmp static table
<IP address>	Static entry multicast IP address, the format is: ABCD
<VLAN ID>	The vlan of the static entry, the value range is <1-4094>
gpon|ge|xge	gpon: PON port, the value range is 0/0/1-16 ge: uplink port, the value range is 0/0/1-4 xge: Uplink 10 Gigabit port, the value range is 0/0/1-2

F/S/P	FrameID/SlotID， <0-0>/<0-0>
<port -list >	List of ports to be configured, the format is 1, 2-3, 4.

【Configuration case】

Case 1: Configure igmp static group rules for port ge0/0/1

```
OLT(config)# igmp static-group ip 224.1.1.1 vlan 100 port ge 0/0 1
```

17.9.View igmp static group information

Command syntax	OLT(config)# **show igmp static-group (all | ip < IP address>)**
Applicable view	config view
Function Description	This command is used to view igmp static group entries
<IP address>	Only show entries whose ip is A:B:C:D in the format A:B:C:D

【Configuration case】

Case 1: View the igmp static group entry whose multicast address is 224.1.1.1

```
OLT(config)# show igmp static-group ip 224.1.1.1
---------------------------------------------- ---------------------------------------
Index IP-Address Mac_Address Vlan MemberPort
1 224.1.1.1 01:00:5e:01:01:01 100 ge0/0/1
---------------------------------------------- ---------------------------------------
Total Static Groups: 1
```

17.10.Configuring Multicast VLAN

Command syntax	OLT(config)# **multicast-vlan <vlan-id>**
Applicable view	config view
Function Description	This command is used to create a multicast VLAN and enter the multicast VLAN mode. The no command deletes it. Multicast VLAN is an application mode of VLAN. In multicast VLAN mode, users can configure parameters related to multicast.
<vlan-id>	Multicast VLAN ID. Only after the corresponding VLAN is created, its ID can be used to create a multicast VLAN.

【Configuration case】

Case 1: Create multicast VLAN 100 and enter its corresponding multicast VLAN mode.

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

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

17.11.Configuring Static Multicast Programs

Command syntax	OLT(config-multicast-vlan-100)# **igmp program add program-index <Program-index> ip <ip-addr>**
Applicable view	multicast-vlan view
Function Description	This command is used to add static multicast programs to the multicast VLAN. If the program matching function is enabled using the igmp match mode enable command , you need to use this command to pre-configure the multicast program library so that users with permissions can view or preview programs in the specified multicast VLAN.
<Program-index>	Multicast program index
<ip-addr>	Multicast IP address, the format is xxxx

【Configuration case】

Case 1: Configure a static multicast program and bind it to program index 1

```
OLT(config-multicast-vlan-100)# igmp program add program-index 1 ip 224.3.3.3

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

17.12.Configuring Static Multicast Programs in Batches

Command syntax	OLT(config-multicast-vlan-100)# **igmp program add program-index <Program-index> batch ip <ip-addr> to-ip <ip-addr>**
Applicable view	multicast-vlan view
Function Description	This command is used to add static multicast programs in a multicast VLAN in batches. If the program matching function is enabled using the igmp match mode enable command , you need to use this command to pre-configure the multicast program library so that users with permissions can view or preview programs in the specified multicast VLAN.
<Program-index>	Multicast program index

<ip-addr>	Represent the start and end multicast IP addresses respectively, forming a multicast range

【Configuration case】

Case 1: Configure static multicast programs 239.1.1.1 to 239.2.2.2 in batches and bind them to program index 3

```
OLT(config-multicast-vlan-100)# igmp program add program-index 3 batch ip 239.1.1.1 to-ip 239.2.2.2

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

17.13.Delete static multicast program

Command syntax	OLT(config-multicast-vlan-100)# **igmp program delete {all |program-index <Program-index> }**
Applicable view	multicast-vlan view
Function Description	This command is used to delete multicast programs. When you no longer want multicast users to watch a multicast program, use this command to delete the multicast program from the program library. After being deleted from the program library, the user will no longer be able to order the program.
<Program-index>	Multicast program index
<all>	All multicast programs

【Configuration case】

Case 1: Delete static multicast program index 2

```
OLT(config-multicast-vlan-100)# igmp program delete program-index 2

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

17.14.View program library

Command syntax	OLT(config)# **show igmp program (all | program-index < index >)**
Applicable view	config view
Function Description	View program library
< index >	The entry index number, the range is 1-2000

【Configuration case】

Case 1: View All Programs

```
OLT(config)# show igmp program all
ERROR : There is not any program record.
OLT (config) #
```

17.15.Configuring IGMP Routing Ports

Command syntax	OLT(config-multicast-vlan-100)# **igmp router-port <port-id>**
Applicable view	multicast-vlan view
Function Description	This command is used to configure the routing port of igmp
<port-id>	Configure the port number for routing

【Configuration case】

Case 1: Configure the ge1 port as a routing port

```
OLT(config-multicast-vlan-100)# igmp router-port ge 0/0/1

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

17.16.View IGMP Routing Ports

Command syntax	OLT(config-multicast-vlan-100)# **show igmp router-port vlan <vlan-id>**
Applicable view	multicast-vlan view, config view
Function Description	This command is used to view the routing port of igmp.
<vlan-id>	multicast vlan id for query

【Configuration case】

Case 1: View the routing port of multicast VLAN 100

```
OLT(config-multicast-vlan-100)# show igmp router-port vlan 100
VID : 100
Router: ge0/0/1

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

17.17.Configuring the Suppression Policy for Unknown

Multicast Service Flows

Command syntax	OLT(config-multicast-vlan-100)# **igmp multicast-unknown policy {discard | transparent}**
Applicable view	multicast-vlan view
Function Description	This command is used to configure the suppression policy for unknown multicast traffic. If the service flow carries unknown multicast for a specific purpose, configure it as transparent transmission. Unknown multicast with no special purpose will occupy bandwidth and is generally configured to be discarded.
discard | transparent	discard: The system discards the received unknown multicast service flow. transparent: The system transparently transmits the received unknown multicast service flow.

【Configuration case】

Case 1: Configure the unknown multicast suppression policy to discard.

```
OLT(config-multicast-vlan-100)# igmp multicast-unknown policy discard

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

17.18.Checking the Suppression Policy for Unknown Multicast Service Flows

Command syntax	OLT(config-multicast-vlan-100) **#show igmp multicast-unknown policy vlan <vlan-id>**
Applicable view	multicast-vlan view, config view
Function Description	This command is used to view the suppression policy of unknown multicast traffic.
<vlan-id>	Multicast vlan id for query.

【Configuration case】

Case 1: Check the unknown multicast 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)#
```

17.19.View the current multicast group information of the

system

Command syntax	OLT(config)# **show system multicast-group info**
Applicable view	config view
Function Description	View the current multicast group information of the system.

【Configuration case】

Case 1: View the current multicast group information of the system.

```
OLT(config)# show system multicast-group info
------------------------------------------------ ----------------------------------------
Index Group-ID Using-count(how many vlans are using this group)
0 3(0x003) 1
1 5(0x005) 1
2 7(0x007) 1

Group Count : 3
------------------------------------------------ ----------------------------------------

Total system multicast group: 2046 ( using/unused : 6/2040 )
Count of layer2 module used: 6
Count of layer3 module used: 0
Count of igmp module used: 0
------------------------------------------------ ----------------------------------------

Tips: first choose the group of the smaller [Using-count] value to release
------------------------------------------------ ----------------------------------------

OLT(config)#
```

17.20.View multicast vlan information

Command syntax	OLT(config)# **show multicast-vlan {<vlan-id>|all}**
Applicable view	Config view
Function Description	This command is used to view multicast members, multicast programs and unknown multicast processing policy information
<vlan-id>	vlan-id: The multicast vlan id used for query.
all	all: all vlans

【Configuration case】

Case 1: View the information of multicast vlan 100.

```
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)#
```

18.Spanning tree configuration

18.1.Configuring Spanning Tree Features

Command syntax	OLT(config)# **stp [port port-type F/SP] {enable|disable}** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") (enable|disable)**
Applicable view	config view
Function Description	This command is used to enable or disable the global or port spanning tree function. All Spanning Tree Protocol configurations take effect only when Spanning Tree Protocol is turned on both globally and on the port. By default, the spanning tree function on switching devices is disabled.
port-type	Port type, including gpon|ge|xge type
F/S P	The specified port number, such as 0/0 1
enable|disable	enable: enable MSTP function disable: disable MSTP function

【Configuration case】

Case 1: Enable the MSTP function of the specified port ge 0/0 1 .

```
OLT(config) # stp port ge 0/0 1 enable

OLT(config) #
```

18.2.Configuring the Spanning Tree Protocol Working Mode of

Switching Devices

Command syntax	OLT(config)# **stp mode (mstp|rstp|stp)**
Applicable view	config view
Function Description	This command is used to configure the spanning tree protocol working mode of the switching device.

【Configuration case】

Case 1: Configure the spanning tree protocol working mode of the switching device as mstp .

```
OLT(config) # stp mode mstp

OLT(config) #
```

18.3.Configure the priority of the switching device in the specified spanning tree protocol

Command syntax	OLT(config)# **stp [instance <instance-id>] priority <prioritty-id>**
Applicable view	config view
Function Description	This command is used to configure the priority of the switching device in the specified spanning tree protocol.
instance-id	Specifies the spanning tree instance ID, the value range is 0-7
priority-id	Priority, the value range is 0-61440

【Configuration case】

Case 1: Configure the priority of the switching device in the specified spanning tree protocol instance 5 as 4096 .

```
OLT(config) # stp instance 5 priority 4096

OLT(config) #
```

18.4.Configuring the Forward-Delay Time of the Switching Device

Command syntax	OLT(config)# **stp timer forward-delay <time-value>**

Applicable view	config view
Function Description	This command is used to configure the Forward-Delay time of the switching device.
time-value	The specified Forward-Delay time value, the value range is 4-30

【Configuration case】

Case 1: Configure the Forward-Delay time of the switching device to be 19 .

```
OLT(config) # stp timer forward-delay 19

OLT(config) #
```

18.5.Configure the interval at which the switching device sends BPDUs

Command syntax	OLT(config)# **stp timer hello <time-value>**
Applicable view	config view
Function Description	This command is used to configure the interval at which the switching device sends BPDUs, that is, the time value of the timer Hello Timer.
time-value	Specifies the time interval for sending BPDUs by the switching device. The value ranges from 1 to 10.

【Configuration case】

Case 1: Configure the time interval for the switching device to send BPDUs to be 6s .

```
OLT(config) # stp timer hello 6

OLT(config) #
```

18.6.Configuring the BPDU Aging Time on Switch Ports

Command syntax	OLT(config)# **stp timer max-age <time-value>**
Applicable view	config view
Function Description	This command is used to configure the aging time of BPDUs on the port of the switching device, that is, the time value of the timer Max Age.
time-value	BPDU aging time value on the specified switching device port, the

	value range is 6-40

【Configuration case】

Case 1: Configure the BPDU aging time on the port of the switching device to 21 .

```
OLT(config) # stp timer max-age 21

OLT(config) #
```

18.7.Configure the maximum number of spanning tree hops in the MST region

Command syntax	OLT(config)# **stp max-hops <hops-value>**
Applicable view	config view
Function Description	This command is used to configure the maximum number of spanning tree hops in the MST region.
hops-value	The specified maximum jump value, the value range is 6-40

【Configuration case】

Case 1: Configure the maximum number of hops for the spanning tree in the MST region to 24 .

```
OLT(config) # stp max-hops 24

OLT(config) #
```

18.8.Configure the maximum number of BPDUs sent by the device within the Hello time

Command syntax	OLT(config)# **stp transmit-limit <packet-number>**
Applicable view	config view
Function Description	This command is used to configure the maximum number of BPDUs sent by the device within the Hello time.
packet-number	Specifies the maximum number of BPDUs sent per second, the value range is 1-10

【Configuration case】

Case 1: Configure the maximum number of BPDUs sent by the device within the Hello time to 5 .

```
OLT(config) # stp transmit-limit 5

OLT(config) #
```

18.9.Configuring the BPDU function of the device

Command syntax	OLT(config)# **stp bpdu-protection {enable|disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the BPDU (Bridge Protocol Data Unit) protection function of the device. The BPDU protection function is used to prevent malicious attacks on devices caused by forged configuration messages and cause network flapping. When the BPDU protection function is enabled successfully, the system will shut down some ports according to the configuration message, so as to protect the ports from attacks. By default, the BPDU protection function of the device is disabled.
enable|disable	enable: Enable the BPDU protection function of the device disable: Disable the BPDU protection function of the device

【Configuration case】

Case 1: Enable the BPDU protection function of the device .

```
OLT(config) # stp bpdu-protection enable

OLT(config) #
```

18.10.Configure the edge port of the device to enable the BPDU filter function

Command syntax	OLT(config)# **stp bpdu-filter {enable|disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the BPDU filter function of the edge port of the device. By default, the port is a non-BPDU filter port.
enable|disable	enable: enable the edge port of the device to enable the BPDU filter function

	disable: Disable the edge port of the device and enable the BPDU filter function

【Configuration case】

Case 1: Enable the BPDU filter function on the edge port of the device .

```
OLT(config) # stp bpdu-filter enable

OLT(config) #
```

18.11.Configure error timeout recovery time

Command syntax	OLT(config)# **stp recovery interval <time-value>**
Applicable view	config view
Function Description	This command is used to configure the error timeout recovery time.
time-value	The specified error timeout recovery time, the value range is 30-86400

【Configuration case】

Case 1: Configuration error timeout recovery time is 40s .

```
OLT(config) # stp recovery interval 40

OLT(config) #
```

18.12.Enter the MST domain view

Command syntax	OLT(config)# **stp region-configuration**
Applicable view	config view
Function Description	This command is used to enter the MST domain view.

【Configuration case】

Case 1: Enter the MST domain view .

```
OLT(config)# stp region-configuration

OLT(stp-region)#
```

18.13.Set path cost calculation criteria

Command syntax	OLT(config)# **stp pathcost-standard {dot1d|dot1t|legacy}**
Applicable view	config view
Function Description	This command is used to set the path cost calculation standard. Use this command when the path calculation standard on the entire network is inconsistent and the path cost calculation standard of the device needs to be consistent with the path calculation standard of the entire network. After the path cost calculation standard is set, the path cost is calculated using the set standard .
dot1d	The calculation method for specifying the path cost value is the IEEE 802.1d-1998 standard method . Use this parameter when you need to set the network path calculation standard of the device to IEEE 802.1D .
dot1t	The calculation method of the specified path cost value is the IEEE 802.1t standard method. Use this parameter when the network path calculation standard of the device needs to be set to IEEE 802.1t.
legacy	The calculation method of the specified path cost value is the Huawei calculation method. Use this parameter when the network path calculation standard of the device needs to be set to Huawei's proprietary algorithm.

【Configuration case】

Case 1: Set the path cost calculation standard to Huawei's calculation method .

```
OLT(config) # stp pathcost-standard legacy

OLT(config) #
```

18.14.Configure the MST domain name of the switching device

Command syntax	OLT(stp-region)# **region-name <name>**
Applicable view	mst view
Function Description	This command is used to configure the MST domain name of the switching device.
name	Specifies the MST domain name of the switching device.

【Configuration case】

Case 1: Configure the MST domain name of the switching device as huawei.

```
OLT(stp-region) # region-name huawei

OLT(stp-region) #
```

18.15.Configure the MSTP revision level for switching devices

Command syntax	OLT(stp-region)# **revision-level <level>**
Applicable view	mst view
Function Description	This command is used to configure the MSTP revision level of the switching device.
level	Specifies the MSTP revision level of the switching device, ranging from 0 to 65535.

【Configuration case】

Case 1: The MSTP revision level of the switch device is configured to be 65535.

```
OLT( stp-region ) # revision-level 65535

OLT(stp-region) #
```

18.16.Map the specified VLAN to the specified spanning tree instance

Command syntax	OLT(stp-region)# **instance <instance-id> vlan <vlan-list>**
Applicable view	mst view
Function Description	This command is used to map the specified VLAN to the specified spanning tree instance.
instance-id	Specifies the spanning tree instance ID, the value range is 0-7
vlan-list	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Map the specified VLAN 1 to the specified spanning tree instance 7.

```
OLT( stp-region ) # instance 7 vlan 1

OLT(stp-region) #
```

18.17.Configure the path cost of the port

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST [instance <instance-id>] cost <cost-value>** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR")[instance <instance-id>] cost <cost-value>**
Applicable view	config view
Function Description	This command is used to configure the port path cost of the specified port on the specified spanning tree.
PORT_LIST	The specified port number, such as 0/0 1
instance-id	Specifies the spanning tree instance ID, the value range is 0-7
cost-value	Path cost of the specified port, the value range is 1-200000000

【Configuration case】

Case 1: Configure the port path cost of the specified port ge 0/0 1 on instance 3 to be 2000.

```
OLT( config ) # stp port ge 0/0 1 instance 3 cost 2000

OLT( config ) #
```

18.18.Configure the priority of ports in the specified spanning tree instance

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST [instance <instance-id>] port-priority <priority-id>** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") [instance <instance-id>] port-priority <priority-id>**
Applicable view	config view
Function Description	This command is used to configure the priority of ports in the specified spanning tree instance. The port priority is an important basis for determining whether the port will be selected as the root port. In the calculation process of spanning tree, the port with higher priority under the same conditions will be selected as the root port. After setting the priority of the port in the specified spanning tree instance, the device will select the root port according to the set priority.
PORT_LIST	The specified port number, such as 0/0 1

instance-id	Specifies the spanning tree instance ID, the value range is 0-7
priority-id	Priority, the value range is 0-240

【Configuration case】

Case 1: Set the priority of port ge 0/0 1 in instance 3 to 32.

```
OLT( config ) # stp port ge 0/0 1 instance 3 port-priority 32

OLT( config ) #
```

18.19.Configure edge ports

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST edged-port {enable|disable}** OLT(config)# **stp port (ge |xge) PORT_LIST auto-edged** OLT(config)# **no stp port (ge |xge) PORT_LIST auto-edged** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") edged-port {enable|disable}** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") auto-edged** OLT(config)# **no stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") auto-edged**
Applicable view	config view
Function Description	This command is used to configure whether the current Ethernet port is used as an edge port. Use this command when you need to make the port quickly transition to the forwarding state and ensure network security. For the port directly connected to the terminal, the port should be set as an edge port, and the BPDU (Bridge Protocol Data Unit) protection function should be enabled at the same time. After setting the current Ethernet port as an edge port, the device will not receive configuration messages sent by other bridge devices.
PORT_LIST	The specified port number, such as 0/0 1
enable|disable	enable: configure the current Ethernet port as an edge port disable: Cancel the current Ethernet port as an edge port

【Configuration case】

Case 1: Configure port ge 0/0 1 as an edge port.

```
OLT( config ) # stp port ge 0/0 1 edged-port enable

OLT( config ) #
```

18.20.Configure point-to-point links

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST point-to-point (force-true |force-false |auto)** OLT(config)# **no stp port (ge |xge) PORT_LIST point-to-point** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") point-to-point (force-true|force-false|auto)** OLT(config)# **no stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") point-to-point**
Applicable view	config view
Function Description	This command is used to set whether the link connected to the current Ethernet port is a point-to-point link. Use this command when you need to configure whether the link is a point-to-point link in order to control the state switching time of the Ethernet port. After setting the link connected to the current Ethernet port as a point-to-point link, specify the Ethernet port to send a fast migration request. If the Ethernet port satisfies the point-to-point link, fast migration can be performed.
PORT_LIST	The specified port number, such as 0/0 1
force-true	Specifies that the link connected to the current port is a point-to-point link.
force-false	Specifies that the link connected to the current port is not a point-to-point link.
auto	Specifies whether the link connected to this port is a point-to-point link automatically detected by the Spanning Tree Protocol.

【Configuration case】

Case 1: Set the link connected to the current Ethernet port ge 0/0 1 as a point-to-point link.

```
OLT( config ) # stp port ge 0/0 1 point-to-point force-true

OLT( config ) #
```

18.21.Configuring BPDU Protection for Edge Ports

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST bpdu-protection {enable|disable}** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") bpdu-protection**

	{enable|disable}
Applicable view	config view
Function Description	This command is used to enable or disable the edge port BPDU protection function. By default, the BPDU protection function of the device is disabled.
PORT_LIST	The specified port number, such as 0/0 1
enable|disable	enable: Enable the edge port BPDU protection function disable: Disable the edge port BPDU protection function

【Configuration case】

Case 1: Enable the BPDU protection function of the edge port of port ge 0/0 1.

```
OLT( config ) # stp port ge 0/0 1 bpdu-protection enable

OLT( config ) #
```

18.22.Configure mCheck variables

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST mcheck** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") mcheck**
Applicable view	config view
Function Description	This command is used to manually set the mCheck variable to force the corresponding port to migrate to the MSTP (Multiple Spanning Tree Protocol) mode. Use this command when you need to check whether there is still a bridge running the STP protocol in the network segment connected to the current port. After manually setting the mCheck variable, the port runs in MSTP mode.
PORT_LIST	The specified port number, such as 0/0 1

【Configuration case】

Case 1: Perform mCheck operation on port ge 0/0 1 to make it work in MSTP mode.

```
OLT( config ) # stp port ge 0/0 1 mcheck

OLT( config ) #
```

18.23.Configuring Role Restricted Ports

Command	OLT(config)# **stp port (ge |xge) PORT_LIST restricted-role**

syntax	OLT(config)# **no stp port (ge |xge) PORT_LIST restricted-role** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") restricted-role** OLT(config)# **no stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") restricted-role**
Applicable view	config view
Function Description	stp The port restricted-role command is used to configure whether a port is a role-restricted port. After a port is configured as the first restricted port of a role, it will not be selected as the root port of CIST or any MSTI, even if it has the best spanning tree priority vector. After a root port is selected, such a port will be selected as an alternate port. no stp port restricted-role is used to restore the port to its default configuration. By default, role-restricted mode is disabled.
PORT_LIST	The specified port number, such as 0/0 1

【Configuration case】

Case 1: Configure port ge 0/0 1 as a role-restricted port.

```
OLT( config ) # stp port ge 0/0 1 restricted-role

OLT( config ) #
```

18.24.Configuring TCN Restricted Ports

Command syntax	OLT(config)# **stp port (ge |xge) PORT_LIST restricted-tcn** OLT(config)# **no stp port (ge |xge) PORT_LIST restricted-tcn** OLT(config)# **stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") restricted-tcn** OLT(config)# **no stp port lag ("SA_PORT_CMD_STR"|"LACP_PORT_CMD_STR") restricted-tcn**
Applicable view	config view
Function Description	stp The port restricted -tcn command is used to configure the port as a TCN restricted port. When a TCN topology change notification is received, the received topology change notification and topology change will not be propagated to other ports. no stp port restricted -tcn is used to restore the port to its default configuration. By default, TCN restricted mode is disabled.
PORT_LIST	The specified port number, such as 0/0 1

【Configuration case】

Case 1: Configure port ge 0/0 1 as a TCN restricted port.

```
OLT( config ) # stp port ge 0/0 1 restricted-tcn

OLT( config ) #
```

18.25.Query the details of MSTP

Command syntax	OLT(config)# **show stp [instance <instance-id>]** OLT(config)# **show stp port (ge |xge) F/S/P**
Applicable view	config view
Function Description	This command is used to query the detailed information of MSTP (Multiple Spanning Tree Protocol). According to the status and statistical information of MSTP, the network topology can be analyzed and maintained.
instance-id	Specifies the spanning tree instance ID, the value range is 0-7
F/S/P	Port number, such as 0/0/1

【Configuration case】

Case 1: Query the details of MSTP.

```
OLT( config ) # show stp

Spanning tree protocol is disabled
Max Hops: 20
PathCost standard :legacy
Transit Limit :6 packets/hello-time
BPDU Filter :disable
BPDU Protection :enable

OLT( config ) #
```

18.26.Querying MSTP Domain Configuration Information

Command syntax	OLT(config)# **show stp region-configuration**
Applicable view	config view
Function Description	This command is used to query the configuration information of the MSTP domain.

【Configuration case】

Case 1: Query the configuration information of the MSTP domain.

```
OLT( config ) # show stp region-configuration

Oper configuration
Region name :e067b3000002
Revision level:0

Instance Vlans Mapped
0 1-6, 8-4094
7 7

OLT( config ) #
```

19.OLT ACL configuration management

Access Control List (ACL) can be used to match data packets through corresponding commands , and then be used to control the incoming and outgoing data packets of a port. The packet matching rules defined by ACL can also be used in other occasions that need to distinguish flows, such as the definition of flow classification rules in QoS.

According to the application purpose, ACLs can be divided into the following types:

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

Extended ACL: Formulate rules based on Layer 3 and Layer 4 information such as source IP address information, destination IP address information, protocol type carried by IP, and protocol characteristics of data packets.

Layer 2 ACL: Formulate rules based on Layer 2 information such as source MAC address, destination MAC address, VLAN priority, and Layer 2 protocol type.

Both switches and xPON products support: standard ACL, extended ACL and Layer 2 ACL.

19.1.ACL application time range (time-range) configuration

ACL time periods are divided into relative time and absolute time:

Relative time : refers to periodic time, for example, every Monday from 8:30 to 18:30.

Absolute time : from a specific time to another time, such as 12:00 on June 8, 2006 to 18:00 on August 8, 2006.

19.1.1.Set the time period in which the ACL applies relative time

Command syntax	OLT(config)# **time-range < time-name> < start-time> to< end-time> <days>**
Applicable view	config view

Function Description	This command is used to set the time period of relative time.
<time-name>	Time period name, which is referenced when configuring ACL rules
<start-time>	The start time of the relative time period, in the format of HH:MM. Together with end-time to determine a time range, days defines the effective date of the time range, and the three parameters together determine a relative time period.
<end-time>	The end time of the relative time period, in the format of HH:MM. . Together with start-time to determine a time range, days defines the effective date of the time range, and the three parameters together determine a relative time period.
<days>	Days: The specific dates of the relative time period. The optional parameters are the following: Mon: Monday Tue: Tuesday Wed: Wednesday Thu: Thursday Fri: Friday Sat: Saturday Sun: Sunday daily: seven days of the week weekend: Saturday and Sunday working-day: Monday to Friday

【Configuration case】

Case 1: Configure a relative time period named worktime, which takes effect from 8:00 to 18:30 every Monday.

```
OLT(config)# time-range worktime 08:00 to 18:30 mon

OLT(config)#
```

19.1.2.the time period for which the ACL applies absolute time

Command syntax	OLT(config)# **time-range < time-name> from < start-time> to < end-time>**
Applicable view	config view
Function Description	This command is used to set the period of absolute time.
<time-name>	The name of the time period, which is referenced when configuring

	ACL rules.
<start-time>	The start time and date of the absolute time period, in the format HH:MM YYYY/MM/DD.
<end-time>	Absolute time period end time and date in the format HH:MM YYYY/MM/DD.

【Configuration case】

Case 1: Configure an absolute time period named test, which takes effect from 8:40 on May 1, 2017 to 18:00 on December 7, 2017

```
OLT(config)# time-range test from 8:40 2017/5/1 to 18:00 2017/12/7

OLT(config)#
```

19.1.3.Delete the configured ACL application time period

Command syntax	OLT(config)# **# no time-range {< time-name>|<all>}**
Applicable view	config view
Function Description	This command is used to delete the configured time period.
<time-name>	Time period name, enter the name of the time period to be deleted, all means all configured time periods.

【Configuration case】

Case 1: Delete the time period with the time period name test

```
OLT(config)# no time-range test

OLT(config)#
```

19.1.4.View the configured ACL application time period

Command syntax	OLT(config)# **show time-range {< time-name>|<all>}**
Applicable view	config view
Function Description	This command is used to view the configured time period.
<time-name>	Time period name, enter the time period name to be viewed, all means all configured time periods.

【Configuration case】

Case 1: View the time period with the time period name 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)#
```

19.1.5.Configure the absolute time for ACL application

Command syntax	OLT(config)# **time-range <name> absolute (start <time> <day> |end <time> <day>)**
Applicable view	config view
Function Description	This command is used to set absolute time
<name>	Time name, refer to this name when configuring ACL rules
start	Starting time
end	End Time
<time>	Start/end time, the format is: HH:MM
<day>	Start/end time in the format: YYYY/MM/DD

【Configuration case】

Case 1: Configure start absolute time test, 12:22 2010/12/1

```
OLT(config)# time-range test absolute start 12:22 2010/12/1
OLT (config) # show time-range all
Current time is 2022-03-24 17:06 Thursday
Time-range : test(Active)
absolute start 2010-12-01 12:22
```

19.2.ACL creation and deletion

Command syntax	OLT(config)# **acl <acl-id>** OLT(config)# **no acl {<acl-id>|<all>}**
Applicable view	config view
Function Description	This command is used to create and delete ACLs.

<acl-id>	ACL IDs to be created and deleted: <2000-2999> basic acl <3000-4999> advanced acl <5000-5999> link acl
<all>	All acls. Note: When an acl rule is applied to a port, it cannot be deleted directly. You need to delete the rule applied by acl from the port before it can be successfully deleted.

【Configuration case】

Case 1: Create basic acl 2001

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

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

Case 2: Create Advanced ACL 3000

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

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

Case 3: Create link acl 5000

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

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

Case 4: Remove acl 2001

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

OLT(config)#
```

19.3.Configure acl name

Command syntax	OLT(acl-basic-2000)# **acl name <name>**
Applicable view	acl view
Function Description	Configure acl name
<name>	acl name, length 1-10

【Configuration case】

Case 1: Configure the name of acl 2000 as name1

```
OLT( acl-basic-2000 )# acl name name1
OLT ( acl-basic-2000 ) #
```

19.4.Basic ACL rule configuration (basic acl)

Command syntax	OLT(acl-basic-2000)# **rule <rule-id> <permit|deny> source <ip-address|any> <sour-wildcard> time-range <name>**
Applicable view	bas ic acl view
Function Description	The rule command is used to create ACL rules in Acl-basic mode. Use this command to formulate ACL rules based on the source IP addresses of packets. After a rule is created successfully, you can use the packet-filter command to reference the rule to filter packets. Or used in conjunction with QoS policies to provide service quality assurance for specific packets. The no rule command is used to delete or modify an ACL rule.
<rule-id>	ACL rule ID. The larger the ACL ID, the higher the priority. The value range is 1-16.
<permit|deny>	deny: The traffic of matching packets is not allowed to pass. permit: Allow eligible packets to pass.
<ip-address|any>	ip-address: The source IP address segment in the ACl rule any: matches any source IP packet
<sour-wildcard>	Inverse mask; the IP address and the inverse mask are used together to match the host of the network number. The inverse mask is a wildcard mask, which tells the device which bit should be matched by marking 0 and 1. In the reverse mask, addresses whose corresponding bits are 1 are ignored in the comparison, and 0s must be checked
<name>	Set the time period for ACL to take effect

【Configuration case】

Case 1: During the worktime period, the designated port 1 can only receive packets from the IP address 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 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)#
```

19.5.Viewing basic ACL rules

Command syntax	OLT(acl-basic-2000)# **show current**
Applicable view	acl-basic view
Function Description	This command is used to view the current acl configuration.

【Configuration case】

Case 1: View the current configuration of the basic acl 2000

```
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)#
```

19.6.Deletion of Basic ACL Rules

Command syntax	OLT(acl-basic-2000)# **no rule <rule-ID>**
Applicable view	acl-basic view
Function Description	This command is used to delete the current acl-specific rule. Note: ACL rules applied to ports need to be unbound before they can be deleted.
<rule-ID>	ACL rule ID, the value range is 1-16

【Configuration case】

Case 1: Remove rule 1 of basic acl 2000

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

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

19.7.Advanced ACL Configuration (advanced ACL)

Command syntax	OLT(acl-adv-3000)# When the parameter protocol is TCP, the command format based on IPv4 is : **rule rule-id {permit| deny} tcp {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [src-port <port -list>] | [dest-port <port-list>] | [precedence <procedence-value>] | [dscp <dscp-value>] |[time-range <time-range-name>]}** When the parameter protocol is UDP, the command format based on IPv4 is : **rule rule-id (permit | deny) udp {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [src-port <port -list>] | [dest-port <port-list>] | [precedence <procedence-value>] | [dscp <dscp-value>] |[time-range <time-range-name>]}** When the parameter protocol is ip , the command format based on IPv4 is : **rule rule-id (permit | deny) ip {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [precedence <procedence-value >] | [dscp <dscp-value>] |[time-range <time-range-name>]}** When the parameter protocol is ipinip , the command format based on IPv4 is : **rule rule-id (permit | deny) ipinip {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [precedence <procedence-value >] | [dscp <dscp-value>] |[time-range <time-range-name>]}** When the parameter protocol is icmp , the command format based on IPv4 is : **rule rule-id (permit | deny) icmp {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [precedence <procedence-value >] | [dscp <dscp-value>] |[time-range <time-range-name>]}** When the parameter protocol is other than TCP, UDP, and ICMP, the command format based on IPv4 is: **rule <rule-id> {permit | deny} <protocol-ID> {[soure <ip-address> <sour-wildcard>] | any] | [destination <ip-address> <sour-wildcard> | any] | [precedence <procedence-value>] | [dscp <dscp-value>] |[time-range <time-range-name>]}**

Applicable view	adv acl view
Function Description	The rule command is used to create advanced ACL rules in Acl-adv mode. Use this command when you need to formulate matching rules based on the source address information, destination address information of the data packet, the protocol type carried by IP, and the characteristics of the protocol. After a rule is created successfully, you can use the packet-filter command to reference the rule to filter packets. Or used in conjunction with QoS policies to provide service quality assurance for specific packets. The no rule command is used to delete or modify a rule in an ACL.
<rule-id>	ACL rule ID. The larger the ACL ID, the higher the priority.
<permit|deny>	deny: The traffic of matching packets is not allowed to pass. permit: Allow eligible packets to pass.
<ip-address|any>	ip-address: The source IP address segment in the ACl rule any: matches any source IP packet
<sour-wildcard>	Inverse mask; the IP address and the inverse mask are used together to match the host of the network number. The inverse mask is a wildcard mask, which tells the device which bit should be matched by marking 0 and 1. In the reverse mask, addresses whose corresponding bits are 1 are ignored in the comparison, and 0s must be checked
<time-range-name>	Set the time period for ACL to take effect
<soure>	ACL matches the source IP address of the packet
<destination>	ACL matches the destination IP address of the packet
<precedence>	ACL matches the priority of the IP layer
<dscp>	Priority of Differentiated Services Code Points
<dest-port>	ACL matches the destination port in UDP or TCP
<src-port>	ACL matches source port in UDP or TCP
<Ipinip>	acl matches double-layer IP packets. That is, IP data encapsulation and tunneling, IP Encapsulation within IP (IP Encapsulation within IP), the protocol number is 4, as it is defined in RFC 2003. It describes how to take an IP datagram and use it as the payload of another IP datagram. In Mobile IP, the new header specifies how to send the encapsulated datagram to the care-of address of the

	mobile node.

【Configuration case】

Case 1: Create an advanced ACL to match all icmp packets;

```
OLT(acl-adv-3000)# rule 1 permit icmp

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

19.8.Viewing advanced ACL rules

Command syntax	OLT(acl-adv-3000)# **show current**
Applicable view	acl-adv view
Function Description	This command is used to view the current acl configuration.

【Configuration case】

Case 1: View the current configuration of the advanced acl 3000

```
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)#
```

19.9.Deletion and modification of advanced ACL rules

Command syntax	OLT(acl-adv-3000)# **no rule <rule-ID> {source | destination | dscp | src-port | dest-port | time-range | precedence | all}**
Applicable view	acl-adv view
Function Description	This command is used to delete the current acl rule or modify the content of the rule. Note: ACL rules applied to a port need to be unapplied from the port before they can be deleted.
<rule-ID>	ACL rule ID, the value range is 1-16

【Configuration case】

Case 1: Delete the source IP in rule 1 of advanced acl 3000

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

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

19.10.Link ACL Configuration (link acl)

Command syntax	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>]}**
Applicable view	Link acl view
Function Description	The rule command is used to create ACL rules in Acl-link mode. Use this command to formulate ACL rules based on link layer information such as the source MAC address, source VLAN ID, Layer 2 protocol type, and destination MAC address of packets. After the ACL rule is successfully created, you can use the packet-filter command to reference the rule to filter packets. Or used in conjunction with QoS policies to provide service quality assurance for specific packets.
<rule-id>	ACL rule ID. The larger the ACL ID, the higher the priority.
<permit|deny>	deny: The traffic of matching packets is not allowed to pass. permit: Allow eligible packets to pass.
<destination>	Destination MAC address of the matched packet in the ACL
<source>	The source MAC address field of matching packets in the ACL
<mac-addr>	mac address
<mac-wildcard>	The inverse mask of the mac address, the inverse mask is the wildcard mask, which tells the device which bit should be matched by marking 0 and 1. In the reverse mask, addresses whose corresponding bits are 1 are not matched (ignored) in the comparison, and those whose bits are 0 must be checked;
<time-range-name>	Set the time period for ACL to take effect
<inner-cos-value>	Match the cos value of the inner vlan of the Layer 2 packet
<cos-value>	Match the cos value of the outer vlan

<vlan-id>	Match the vlanid value of the outer vlan
<inner-cos-value>	Match the cos value of the inner vlanid
<Ethernet-type>	match with the type field of ethernet

【Configuration case】

Case 1: During the worktime period, the designated port 1 can only receive packets from the destination mac address 22-22-22-22-22-22.

```
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 00 : 00 : 00 : 0 0: 00 : 00
OLT(acl-link-5000)# rule 1 deny destination 22:22:22:22:22:22 FF : FF : FF : FF : FF : FF
OLT(acl-link-5000)#exit
OLT(config)# packet-filter inbound 5000 port ge 0|0 1

OLT(config)#
```

19.11.Viewing link ACL rules

Command syntax	OLT(acl-link-5000)# **show current**
Applicable view	acl-link view
Function Description	This command is used to view the current acl configuration.

【Configuration case】

Case 1: View the current configuration of the link acl 5000

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

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


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

19.12.Deletion of link ACL rules

Command syntax	OLT(acl-link-5000)# **no rule <rule-ID>**

Applicable view	acl-link view
Function Description	This command is used to delete the current acl rule or modify the content of the rule. Note: ACL rules applied to a port need to be unapplied from the port before they can be deleted.
<rule-ID>	ACL rule ID, the value range is 1-16

【Configuration case】

Case 1: Delete rule 1 of link acl 5000

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

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

19.13.View ACL configuration

Command syntax	OLT(config)# **show acl {<acl-id> | all |detail [<acl-id>|all]}**
Applicable view	config view
Function Description	This command is used to view the configured acl.
<acl-id>	Specific ACL.
all	show all ACLs
detail	details

【Configuration case】

Case 1: Query all ACLs of the device

```
OLT(config)# show acl all

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

Link ACL 5000, 0 rules hold


OLT(config)#
```

19.14.Modify ACL rule-id value

Command syntax	OLT(acl-basic-2000)# **rule <rule-id> {up|down|move to <rule-id >}**
Applicable view	basic acl view, adv acl view, link acl view
Function Description	acl acl-id down: Decrease the value of rule-id by one, without changing the content of the rule. acl acl-id up: Increase the value of rule-id by one, without changing the content of the rule. acl acl-id move to: Change the value of rule-id to the specified rule-id without changing the content of the rule. (The value of rule-id cannot be adjusted for rules that have bound ports)
<rule-id>	Concrete value of Rule
<up|down|move to>	down: Decrease the value of rule-id by one, without changing the content of the rule. up: Increase the value of rule-id by one, without changing the content of the rule. move to: Change the value of rule-id to the specified rule-id without changing the content of the rule.

【Configuration case】

Case 1: Change the rule id from 1 to 3 in ACL 2000

```
OLT(acl-basic-2000)# rule 1 move to 3

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

20.OLT QOS configuration management

20.1.Configure ACL rule-based traffic management

20.1.1.Configure to filter traffic matching ACL rules

Command syntax	OLT(config)# **packet-filter {inbound|outbound} <acl-id> rule-id <rule-id> port {ge | pon | xge} <port-list>**
Applicable view	config view
Function Description	The packet-filter command is used to configure ACL filtering rules for a specified port and make them take effect. Use this command when you need to use ACL rules to filter port traffic. The no packet-filter command is used to cancel the ACL filtering

	rule of the specified port. Use this command when you need to delete the ACL filtering rule of the specified port.
inbound|outbound	inbound: traffic in the inbound direction outbound: outbound traffic
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list

【Configuration case】

Case 1: During the worktime period, the designated port 1 can only receive packets from the IP address 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)# rule 1 deny source any time-range work time
OLT(acl-basic-2000)# exit
OLT(config)# packet-filter inbound 2000 port ge 0|0 1

OLT(config)#
```

20.1.2.Modify the DSCP value of the traffic matching the ACL rule

Command syntax	OLT(config)# **traffic-dscp {inbound|outbound} <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> remark-dscp <remark-dscp-value>**
Applicable view	config view
Function Description	The traffic-dscp command is used to configure an ACL for a specified port to re-mark the DSCP and make it take effect. Use this command when you need to use ACL rules to re-mark the DSCP packets of the port. The no traffic-dscp command is used to cancel the ACL remarking of the specified port. Use this command when you need to delete the ACL remark of the specified port.
inbound|outbound	inbound: traffic in the inbound direction outbound: outbound traffic
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL

<port-list>	port list
<remark-dscp-value>	The value of the relabeled DSCP

【Configuration case】

Case 1: During the worktime period, re-mark DSCP for the packets from the IP address 10.10.10.2

is 43.

```
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 mark-dscp 43

OLT(config)#
```

20.1.3.Configure mirroring of traffic matching ACL rules

Command syntax	OLT(config)# **traffic-mirror inbound <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> to {ge | xge} <port-list>**
Applicable view	config view
Function Description	The traffic-mirror command is used to configure an ACL for a specified port to perform traffic mirroring and make it take effect. Use this command when you need to use ACL rules to mirror traffic on a port. The no traffic-mirror command is used to cancel the ACL traffic mirroring of the specified port. Use this command when you need to delete the ACL traffic mirroring function of the specified port.
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list

【Configuration case】

Case 1: During the worktime period, mirror the packets with the IP address 10.10.10.2 from port 1 to 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)#
```

20.1.4.Configure to restrict traffic matching ACL rules

Command syntax	OLT(config)# **traffic--limit <inbound|outbound> <acl-id> rule-id <rule-id> port <ge | pon | xge><port-list> cir <rate-value> pir <rate- value> {cbs < rate-value >} exceed (yellow|red) <drop | reremark-dscp>**
Applicable view	config view
Function Description	The traffic-limit command is used to configure an ACL for a specified port to limit traffic and make it effective. Use this command when you need to use ACL rules to limit the port rate. The no traffic-limit command is used to cancel the ACL traffic restriction on the specified port. Use this command when you need to delete the ACL rate limiting function of a specified port.
<inbound|outbound >	inbound: traffic in the inbound direction outbound: outbound traffic
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list
cir	Configure the guaranteed bandwidth, the value range is 64-1024000 , the unit is kbps
pir	Configure best effort bandwidth, the value range is 64-102400 , the unit is kbps
cbs	Configure the committed burst size, the value range is 2000-10240000, the unit is byte
exceed (yellow|red)	exceed yellow : Limit traffic that exceeds the specified best effort bandwidth exceed red: Limit traffic that exceeds the specified guaranteed bandwidth
<drop |	drop: drop

reremark-dscp>	reremark: The value of the remarked DSCP

【Configuration case】

Case 1: During the worktime period, for the packets from the IP address 10.10.10.2 and the incoming packets from interface 1, the guaranteed bandwidth is 1M, the average peak bandwidth is 100M, and the traffic exceeding the guaranteed bandwidth of 1M is discarded.

```
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) # t raffic- limit inbound 2000 port ge 0/0 1 cir 1024 pir 102400 exceed red drop

OLT(config)#
```

20.1.5.Add the outer VLAN of the traffic matching the ACL rule

Command syntax	OLT(config)## **traffic - outervlan inbound <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> vlan <vlan-id>**
Applicable view	config view
Function Description	The traffic-outervlan command is used to configure the addition of an ACL outer vlan for a specified port and make it take effect. Use this command when you need to use the ACL rule to add the outer VLAN to the port. The no traffic-outervlan command is used to cancel the addition of the outer VLAN of the ACL of the specified port. Use this command when you need to delete the ACL outer vlan addition of the specified port.
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list
<vlan-id>	added outer vlan

【Configuration case】

Case 1: During the worktime period, to the packets with the IP address 10.10.10.2 from port 1, add the packets whose outer layer is vlan10.

```
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)#
```

20.1.6.Translate VLANs for traffic matching an ACL rule

Command syntax	OLT(config)## **traffic-translate inbound <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> vlan <vlan-id>**
Applicable view	config view
Function Description	This command is used to convert the vlan of the incoming data flow from the port matching the acl rule into the configured vlan value (vlan conversion).
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list
<vlan-id>	converted vlan

【Configuration case】

Case 1: Convert the vlan of the incoming data flow from port 1 of rule 2 of acl 2000 to 19.

```
OLT(config)# t raffic-translate inbound 2000 rule-id 2 port ge 0/0/1 vlan 19

OLT(config)#
```

20.1.7.Modify the VLAN priority of traffic matching an ACL rule

Command syntax	OLT(config)# **traffic - priority inbound <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> remark-priority <pri-value>**
Applicable view	config view
Function Description	The traffic-priority command is used to configure the priority of the vlan of the ACL for the specified port and make it take effect. Use this command when you need to use ACL rules to change the priority of VLANs. The no traffic-priority command is used to cancel the VLAN priority specified by the ACL of the specified port. Use this command when you need to delete the vlan priority of the specified port.
<acl-id>	id of the ACL

<rule-id>	Rule ID in ACL
<port-list>	port list
<pri-value>	The value of the priority, the range is 0-7

【Configuration case】

Case 1: During the worktime period, for the packets with the IP address 10.10.10.2 from port 1, the priority of the VLAN assigned to the packets is 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)#
```

20.1.8.Configure redirection of traffic matching ACL rules

Command syntax	OLT(config)## **traffic - redirect inbound <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> to {ge | xge} <port-list>**
Applicable view	config view
Function Description	The traffic-redirect command is used to configure an ACL for a specified port to redirect traffic and make it take effect. Use this command when you need to use ACL rules to redirect traffic on a port. The no traffic-redirect command is used to cancel the ACL traffic redirection of the specified port. Use this command when you need to delete the ACL traffic mirroring function of the specified port. (Redirect the packets matching the ACL rule under the specified port or port list to other ports for forwarding. After the configuration is successful, the port will no longer forward the redirected packets, but will forward the redirected destination port instead. Pay attention to the configuration of the port VLAN. .)
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL

<port-list>	port list

【Configuration case】

Case 1: During the worktime period, redirect the packets with the IP address 10.10.10.2 from port 1 to 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-redirect inbound 2000 port ge 0/0 1 to ge 0/0 2

OLT(config)#
```

20.1.9.Modify the TOS value of the traffic matching the ACL rule

Command syntax	OLT(config)# **traffic - tos {inbound|outbound} <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list> remark-tos <Tos value>**
Applicable view	config view
Function Description	The traffic-tos command is used to modify the tos value of the traffic matching the acl rule to the specified tos value
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list
<Tos value>	tos value to be modified

【Configuration case】

Case 1: During the worktime period, the tos value of the packets with the IP address 10.10.10.2 from port 1 is modified to 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)#
```

20.1.10.Clear the traffic statistics of ports matching ACL rules

Command syntax	OLT(config)# **traffic-statistic clear-counters {inbound|outbound} <acl-id> rule-id <rule-id> port {ge | gpon | xge} <port-list>**
Applicable view	config view
Function Description	The traffic-statistic command is used to clear the traffic whose port matches the acl rule
<acl-id>	id of the ACL
<rule-id>	Rule ID in ACL
<port-list>	port list

【Configuration case】

Case 1: Delete the traffic that matches the acl 2000 rule counted on the ge4 port.

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

OLT(config)#
```

20.1.11.View filter policies applied to device ports

Command syntax	OLT(config)# **show packet-filter {<all>|port}**
Applicable view	config view
Function Description	This command is used to view the policy applied to the device port
all|port	all: all filter policies port: a port filtering policy

【Configuration case】

Case 1: View all filtering policies applied to the device

```
OLT(config)# show packet-filter all
---------------------------------------------- ----------------------------------------
inbound acl 2000 port ge 0/0 1 running
---------------------------------------------- ----------------------------------------

OLT(config)#
```

20.1.12.View the QOS policy applied by the device port

Command syntax	OLT(config)# **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>
Applicable view	config view
Function Description	This command is used to view the QOS policy of the device port
<all>	All QOS policies
<port-list>	port list

【Configuration case】

Case 1: View all QOS policies of ge1 port

```
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)#
```

20.2.Configure the mode of global QOS

Command syntax	OLT(config)# qos global mode {device-based|port-based}
Applicable view	config view
Function Description	This command is used to configure the global QOS mode
device-based|port-based	device-based: QOS based on device mode port-based: QOS based on port mode

【Configuration case】

Case 1: Configure QOS based on device mode

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

OLT(config)#
```

20.3.Configure system queues

20.3.1.Configure the mapping method of system queues

Command syntax	OLT(config)# qos cosq-map mode {cos|diffserv|tos}

Applicable view	config view
Function Description	This command is used to configure the mapping method of the system queue
cos|diffserv|tos	cos: mapping relationship based on 802.1p priority diffserv: Mapping relationship based on the differentiated service model mapping relationship between service types based on three-layer data packets

【Configuration case】

Case 1: The mapping method of the configuration queue is 802.1p priority.

```
OLT(config)# qos cosq-map mode cos

OLT(config)#
```

20.3.2.Configure the mapping table between system queues and 802.1p priorities

Command syntax	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>**
Applicable view	config view
Function Description	This command is used to configure the mapping table between system queues and 802.1P priorities
<Queue id>	Queue number, in the range 0-3

【Configuration case】

Case 1: Configure the mapping table between system queues and 802.1p priorities.

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

OLT(config)#
```

20.3.3.Configure system queue scheduling mode

Command syntax	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>**
Applicable view	config view
Function Description	The queue-scheduler command is used to configure the queue scheduling mode of the system. Queue scheduling is to divide the packets that need to be sent from the same port into multiple queues, and schedule between queues to determine which queue's packets are sent first and which queue's packets are sent later. This command is used when the user needs to select different queue scheduling modes according to the importance of the service to ensure that the QoS guarantee can still be provided for the important service even when the network is congested. After the queue scheduling mode is successfully configured, the system forwards the packets in the queue according to the new scheduling mode. The system supports PQ, WRR, and WRR+PQ scheduling modes. When a queue is empty, it can immediately switch to the next queue for scheduling, making full use of bandwidth resources. When there is WRR queue scheduling, the sum of weights must be 100
strict-priority	Strict priority scheduling. When this mode is applied, the system schedules strictly according to the priority of the queue. Only when the high-priority queue is empty, the packets in the low-priority queue can be scheduled. The disadvantage of the PQ scheduling mode is that when congestion occurs, if there are packets in the higher priority queue for a long time, the packets in the lower priority queue will not be scheduled in time, causing the corresponding application to time out.
wrr	Weighted round robin queue scheduling WRR (Weighted Round Robin) mode. When this mode is applied, a weight needs to be configured for each queue (the weight indicates the proportion of resources acquired), and the queues are scheduled in turn according to the weight to ensure that each queue receives a certain service. Each queue has the same priority but different weights. The greater the weight, the longer the queue will take to obtain scheduling. This ensures that the lowest-priority queue obtains at least a certain amount of bandwidth, and avoids that

	packets in the low-priority queue may not be served for a long time when PQ scheduling is used. queue0-weight|queue1-weight|queue2-weight|queue3-weight Set the weight of each queue. The system supports 4 queues (queue 0-queue 3), and the sum of the weights of the 4 queues is 100.
WRR+PQ	The WRR+PQ scheduling mode is a mixture of the WRR and PQ scheduling modes. When the queue scheduling mode is WRR and the weight of the queue has a value of 0, the queue scheduling mode is the PQ+WRR scheduling mode. In this mode, the system first schedules queues with a weight of 0 in PQ mode, and then schedules queues with non-zero weights in WRR mode, and the priority of PQ queues is higher than that of WRR queues. The default scheduling method of the system is PQ scheduling.

【Configuration case】

Case 1: Configure the system queue scheduling mode as WRR, where the weights of queues 0 – 3 are 20 30 35 15

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

OLT(config)#
```

20.3.4.View system queue scheduling mode

Command syntax	OLT(config)# **show qos queue-schedule**
Applicable view	config view
Function Description	This command is used to query the queue scheduling mode currently used by the system

【Configuration case】

Case 1: View the queue scheduling mode currently used by the system.

```
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)#
```

20.4.Configure port queues

20.4.1.Configure the mapping method of the port queue

Command syntax	OLT(config)# **qos cosq-map port-based {gpon|ge|xge} <port-id> mode {cos|diffserv|tos}**
Applicable view	config view
Function Description	This command is used to configure the mapping mode of the port queue
cos|diffserv|tos	cos: mapping relationship based on 802.1p priority diffserv: Mapping relationship based on the differentiated service model mapping relationship between service types based on three-layer data packets

【Configuration case】

Case 1: Configure the mapping method of the ge1 queue as 802.1p priority.

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

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

```
OLT(config)#
```

20.4.2.Configure the mapping table between port queues and 802.1p priorities

Command syntax	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>**
Applicable view	config view
Function Description	This command is used to configure the mapping between queues and 802.1P priorities
<Queue id>	Queue number, in the range 0-3

【Configuration case】

Case 1: Configure the mapping table between the pon1 queue and the 802.1p priority.

```
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)#
```

20.4.3.Configure the mapping priority of the port queue

Command syntax	OLT(config)# **qos cosq-map port-based {gpon|ge|xge} < F/S PORT-LIST > to-pbits diffserv <dscp_list> < priority >**
Applicable view	config view
Function Description	This command is used to configure the mapping 802.1P priority of the port queue
<dscp_list>	Port queue list , the range is 0-6 3 , the format is: 1, 3-5 , 8
< priority >	The priority of 802.P, the range is 0-7

【Configuration case】

Case 1: Configure the priority of queue 1 of the mapped uplink port ge1 to be 5

```
OLT(config)# qos cos-map port-based ge 0/0 1 to-pbits diffserv 1 5
```

20.4.4.Configure the port queue scheduling mode

Command syntax	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>**
Applicable view	config view
Function Description	The queue-scheduler-port-based command is used to configure the queue scheduling mode of the port. Queue scheduling is to divide the packets that need to be sent from the same port into multiple queues, and schedule between queues to determine which queue's packets are sent first and which queue's packets are sent later. This command is used when the user needs to select different queue scheduling modes according to the importance of the service to ensure that the QoS guarantee can still be provided for the important service even when the network is congested. After the queue scheduling mode is successfully configured, the port will forward the packets in the queue according to the new scheduling mode. The port supports PQ, WRR, and WRR+PQ scheduling modes. When a queue is empty, it can immediately switch to the next queue for scheduling, making full use of bandwidth resources. When there is WRR queue scheduling, the sum of weights must be 100
strict-priority	Strict priority scheduling. When this mode is applied, ports are scheduled strictly according to the priority of the queue. Only when the high-priority queue is empty, the packets in the low-priority queue can be scheduled. The disadvantage of the PQ scheduling mode is that when congestion occurs, if there are packets in the higher priority queue for a long time, the packets in the lower priority queue will not be scheduled in time, causing the corresponding application to time out.
wrr	Weighted round robin queue scheduling WRR (Weighted Round

	Robin) mode. When applying this mode, you need to configure a weight for each queue (the weight indicates the proportion of resources acquired), and schedule among the queues in turn according to the weight to ensure that each queue receives a certain service. Each queue has the same priority but different weights. The greater the weight, the longer the queue will take to obtain scheduling. This ensures that the lowest-priority queue obtains at least a certain amount of bandwidth, and avoids that packets in the low-priority queue may not be served for a long time when PQ scheduling is used. queue0-weight|queue1-weight|queue2-weight|queue3-weight Set the weight of each queue. The system supports 4 queues (queue 0-queue 3), and the sum of the weights of the 4 queues is 100.
WRR+PQ	The WRR+PQ scheduling mode is a mixture of the WRR and PQ scheduling modes. When the queue scheduling mode is WRR and the weight of the queue has a value of 0, the queue scheduling mode is the PQ+WRR scheduling mode. In this mode, the port first schedules queues with a weight of 0 in PQ mode, and then schedules queues with non-zero weights in WRR mode, and the priority of the PQ queue is higher than that of the WRR queue. The default scheduling mode of the port is PQ scheduling.

【Configuration case】

Case 1: Configure the scheduling mode of the pon1 queue as WRR, where the weights of queues 0 – 3 are 20 25 30 25

```
OLT(config)# qos queue-scheduler port-based gpon 0/0 1 wrr 20 25 30 25

OLT(config)#
```

20.4.5.View port queue scheduling mode

Command syntax	OLT(config)# **show qos queue-schedule port-based {gpon|ge|xge} <port-id>**
Applicable view	config view
Function Description	This command is used to query the queue scheduling mode currently used by the port

【Configuration case】

Case 1: View the queue scheduling mode currently used by pon1.

```
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
twenty two
3 1
4 2
5 1
6 3
7 2
---------------------------------------------- ----------------------------------------

OLT(config)#
```

20.5.Set the mapping template of DSCP to 802.1p priority

Command syntax	OLT(config)# **dscp-to-pbits** *dscp-list 802.1p-priority*
Applicable view	config view
Function Description	This command is used to configure the mapping relationship between DSCP and 802.1p priority. Access devices mainly rely on 802.1p priorities for scheduling, while IP networks mainly rely on DSCP priorities for scheduling. To ensure that QoS information is not lost when the access device sends user packets to the IP network, it is necessary to set the mapping relationship between DSCP and 802.1p priority. It must be configured under the mapping relationship (diffserv) based on the DiffServ model .

dscp-list	DSCP threshold information list of user IP packets, the range is 0-63, the format is 1,3-5
802.1p-priority	802.1p priority mapped to egress packets, the range is 0-7

【Configuration case】

Case 1: Configure the mapping of DSCP 1 queue to 802.1p priority 1.

```
OLT(config)# dscp-to-pbits 1 1

OLT(config)#
```

20.6.Mapping template for setting TOS to 802.1p priority

Command syntax	OLT(config)# **tos-to-pbits <tos list> <802.1p priority>**
Applicable view	config view
Function Description	This command is used to set the tos priority mapping 802.1p priority. It needs to be used when the QoS policy mode of the IP is configured on the device as tos.
<tos list>	Tos priority
<802.1p priority>	802.1p priority

【Configuration case】

Case 1: Set tos priority 0 to map to 802.1p priority 0

```
OLT(config)# tos-to-pbits 0 0
```

21.OLT DHCP function configuration

21.1.OLT DHCP-Snooping function configuration

21.1.1.Configuring DHCP-Snooping

Command syntax	OLT(config)# **dhcp-s nooping enable|disable**
Applicable view	config view
Function Description	This command is used to enable or disable the dhcp-snooping

	function. After enabling, the trusted/untrusted port function, MAC address detection function, DHCP packet rate limit function of untrusted port , port recovery function, option82 function, ARP dynamic monitoring function and ARP fast reply function are also enabled.
enable |disable	Enable: Enable the dhcp-snooping function Disable: Disable the dhcp-snooping function

【Configuration case】

Case 1: Enable dhcp-snooping

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

OLT(config)#
```

21.1.2.Check Configuration of DHCP-Snooping

Command syntax	OLT(config)# **show dhcp-snooping configuration**
Applicable view	config view
Function Description	This command is used to view the configuration of dhcp-snooping

【Configuration case】

Case 1: View the 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 wirte-delay time : 7200(s)
Switch ARP dectection status : Disable
Switch ARP reply-fast status : Disable

DHCP Snooping is configured on the 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)#
```

21.1.3.Configure DHCP-Snooping to monitor vlan

Command syntax	OLT(config)# dhcp-snooping vlan <vlan-lis>
Applicable view	config view
Function Description	This command is used to add the specified monitoring vlan. DHCP packets that belong to the monitoring vlan range will be monitored, and DHCP packets that do not belong to the monitoring vlan range will be forwarded as they are. Use the no command to delete the specified listening vlan
<vlan-lis>	add specified vlan

【Configuration case】

Case 1: Add monitoring vlan100

```
OLT(config)# dhcp-snooping vlan 100

OLT(config)#
```

21.1.4.Configuring DHCP-Snooping Trusted Ports

Command syntax	OLT(config)# dhcp-snooping trust port <PORT-LIST>
Applicable view	config view
Function Description	This command is used to add a dhcp-snooping trusted port, and use the no command to delete a dhcp-snooping trusted port. Trusted ports can receive all DHCP packets, and untrusted ports are not allowed to receive DHCP response packets.
<PORT-LIST>	The added specified port, the types are: gpon: pon port of OLT ge: OLT uplink Gigabit port xge: OLT uplink 10 Gigabit port lag: link aggregation group

【Configuration case】

Case 1: Add uplink port ge1 as a dhcp-snooping trusted port.

```
OLT(config)# dhcp-snooping trust port ge 0/0 1

OLT(config)#
```

21.1.5.configure DHCP-Snooping source MAC address check

Command syntax	OLT(config)# dhcp-snooping chaddr-check enable |disable

Applicable view	config view
Function Description	This command is used to enable or disable dhcp-snooping chaddr-check After it is enabled, it detects whether the source MAC address and CHADDR field of the DHCP request packet received by the untrusted port are the same.
enable |disable	enable: enable dhcp-snooping chaddr-check disable: disable dhcp-snooping chaddr-check

【Configuration case】

Case 1: Enable dhcp-snooping chaddr-check function

```
OLT(config)# dhcp-snooping chaddr-check enable

OLT(config)#
```

21.1.6.Configure the rate of DHCP-Snooping request packets

Command syntax	OLT(config)# **dhcp-snooping limit-rate <Rate> <PORT-LIST>**
Applicable view	config view
Function Description	This command is used to set the rate at which an untrusted GE port receives DHCP request packets. If the rate exceeds the rate, the packets will be discarded. The rate limit for trusted ports can be configured, but does not take effect unless it is set to untrusted ports.
<Rate>	Limit the rate of DHCP request packets, the value range is 1-2048, the unit is PPS
<PORT-LIST>	The specified port to be set, the types are: gpon: pon port of OLT ge: OLT uplink Gigabit port xge: OLT uplink 10 Gigabit port lag: link aggregation group

【Configuration case】

Case 1: Limit the rate of receiving DHCP request packets on the ge1 port to 1024pps

```
OLT(config)# dhcp-snooping limit-rate 1024 port ge 0/0 1

OLT(config)#
```

21.1.7.configure DHCP-Snooping opton82 domain

Command syntax	OLT(config)# **dhcp-snooping option82 enable|disable**
Applicable view	config view
Function Description	This command is used to enable or disable the dhcp-snooping option82 function. After enabling, insert the Option82 information into the DHCP request packet received from the untrusted port; strip the DHCP response packet received from the trusted port. Option82 information.
enable |disable	Enable: Enable the dhcp-snooping option82 function Disable: Disable the dhcp-snooping option82 function

【Configuration case】

Case 1: Enable the function of DHCP option 82.

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

OLT(config)#
```

21.1.8.the forwarding policy of DHCP-Snooping option 82

Command syntax	OLT(config)# **dhcp-snooping option82 policy (keep|drop|replace | merge)**
Applicable view	config view
Function Description	This command is used to configure the forwarding policy of the Opton82 for request packets.
keep	Forward DHCP packets with Option82 as is
drop	Directly discard DHCP packets with Option82
replace	Replace the Option82 option in the original DHCP packet, and then forward it
merge	Combine forwarding of DHCP packets with Option82

【Configuration case】

Case 1: Configure the forwarding policy of dhcp to forward according to the original forwarding policy

```
OLT(config)#dhcp-snooping option82 policy keep
OLT(config)#
```

21.1.9.Configuring DHCP-Snooping option82 Vlan Forwarding Policy

Command syntax	OLT(config)# **dhcp-snooping option82 vlan-policy <vlan-list> (none|keep|replace|strip|drop)**
Applicable view	config view
Function Description	This command is used to configure Opton82 with vlan request message forwarding strategy.
<vlan-list>	List of Vlans in the range 1-4094
n one	Cancel option82 vlan forwarding policy
keep _	Forward DHCP packets with Option82 of vlan as is
replace	Replace the Option82 option in the DHCP packet with vlan , and then forward it
strip	Deprive DHCP packets with Option82 of vlan
drop	Directly discard DHCP packets with Option82 of vlan

【Configuration case】

Case 1: Configure the forwarding policy of DHCP-Snooping vlan 10 as keep

```
OLT(config)# dhcp-snooping option82 vlan-policy 10 keep

OLT(config)#
```

21.1.10.Configure the padding mode of the DHCP-Snooping option82

Command syntax	OLT(config)# **dhcp-snooping option82 format <type1|type2|type3|type4|type5>**
Applicable view	config view
Function Description	This command is used to configure the padding mode for Opton82 options
<type1|type2|type3|type4|type5>	type1: represents UNI+ONU MAC type2: represents UNI+OLT MAC type3: represents ONU+ONU MAC type4: represents ONU+OLT MAC type5: represents PON+OLT MAC

【Configuration case】

Case 1: Configure the padding mode of option82 as UNI+ONU MAC

```
OLT(config)# dhcp-snooping option82 format type1

OLT(config)#
```

21.1.11.Create custom ascii type option82 format item

Command syntax	OLT(config)# **dhcp-snooping option82 format add ascii name <format-name>{ cid <circuit-id> | rid <remote-id> }**
Applicable view	config view
Function Description	Create a custom option82 format item, the field data of this item is filled in ascii format.
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn. Format: "vlan/slot/ponid/onuid/ ' 88rr4 ' " (with double quotes if there is a space string), vlan/slot2/ponid4/ounid4/ ' 88r4 ' /, the length is 1-128

【Configuration case】

Case 1: Create an option82 format item of custom type ascii, name test01, and rid vlan

```
OLT(config)# dhcp-snooping option82 format add ascii name test01 rid vlan
```

21.1.12.Create custom hex type option82 format item

Command syntax	OLT(config)# **dhcp-snooping option82 format add hex name <format-name>{ cid <circuit-id> | rid <remote-id> }**
Applicable view	config view
Function Description	Create a custom option82 format item, the field data of this item is filled in hex format.
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single

	quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn. Format: "hostname: ' hostname frame/slot/ponid.onuid:vlan", length 1-128

【Configuration case】

Case 1: Create an option82 format item of custom type hex, name test02, and rid slot

```
OLT(config)# dhcp-snooping option82 format add hex name test02 rid slot
```

21.1.13.Remove custom option82 format items

Command syntax	OLT(config)# **dhcp-snooping option82 format delete name <format-name>**
Applicable view	config view
Function Description	Delete custom option82 format items
<format-name>	Custom format item name, length 1-32

【Configuration case】

Case 1: Delete the custom option format item named test02

```
OLT(config)# dhcp-snooping option82 format delete name test02
```

21.1.14.Modify sub-options of custom option82 format items

Command syntax	OLT(config)# **dhcp-snooping option82 format modify name <format-name>{ cid <circuit-id> | rid <remote-id> }**
Applicable view	config view
Function Description	Modify sub-options of custom option82 format items
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn.

	Format: "hostname: ' hostname frame/slot/ponid.onuid:vlan", length 1-128

【Configuration case】

Case 1: Modify the sub-option cid of the custom option format item test01 to ponid

```
OLT(config)# dhcp-snooping option82 format modify name test01 cid ponid
```

21.1.15.Configuring the Binding Policy of DHCP-Snooping

Command syntax	OLT(config)# **dhcp-snooping binding <MAC address>< IP address> <VLAN ID> <port>**
Applicable view	config view
Function Description	This command is used to configure the binding policy based on request packets.
<MAC address>	The MAC address of the static binding entry, the format is: AA:BB:CC:DD:EE:FF
<IP address>	The IP address of the static binding entry, in the format: ABCD
<VLAN ID>	The vlan of the static binding entry, the value range is <1-4094>
<port>	The port id of the static binding entry, the types are: gpon: pon port of OLT ge: OLT uplink Gigabit port xge: OLT uplink 10 Gigabit port lag: link aggregation group

【Configuration case】

Case 1: Add a static binding entry with the mac address of 00:0f:1f:c5:10:08, the ip address of 192.168.1.101, the vlan of 100, and the port of ge2.

```
OLT(config)# dhcp-snooping binding 00:0f:1f:c5:10:08 192.168.1.101 100 port ge 0/0/2

OLT(config)#
```

21.1.16.Remove DHCP-Snooping Binding monitor entry

Command syntax	OLT(config)# **dhcp-snooping bind-table clear {all | static | dynamic | ip-address |vlan}**
Applicable view	config view
Function Description	This command is used to delete the bound listening entry according to the type

all	Delete all entries in the listening binding table:
static	Delete the entry of the static listening binding table
dynamic	Delete the entry of the dynamic listening binding table
IP-address	Delete the entry of the listening binding table of the specified IP
vlan	Delete the listening entry in the specified vlanID

【Configuration case】

Case 1: Delete all bound listening entries

```
OLT(config)# dhcp-snooping bind-table clear all

OLT(config)#
```

21.1.17.Configuring the Delayed Writing Time of the DHCP-Snooping Binding Table

Command syntax	OLT(config)# **dhcp-snooping bind-table write-delay <Delay time>**
Applicable view	config view
Function Description	This command is used to set the delay time for writing the DHCP snooping binding table to flash. After the DHCP snooping binding table is updated, it will be written to flash after waiting for the set time.
<Delay time>	Delay writing time, the value range is 240-86400, the unit is S.

【Configuration case】

Case 1: Set the DHCP snooping binding table to update 4 minutes after the update occurs

```
OLT(config)# dhcp-snooping bind-table write-delay 240

OLT(config)#
```

21.1.18.configure Delay in deletion of the DHCP-Snooping binding table

Command syntax	OLT(config)# **dhcp-snooping bind-table delete-time <time>**
Applicable view	config view

Function Description	This command is used to set the deletion time of dynamic entries in the DHCP snooping binding table. When the lease time is reached, the dynamic table entry will not be deleted immediately, but will be deleted after a delay to the set time.
<time>	Delay deletion time of dynamic table entry, the value range is 1-86400, the unit is S.

【Configuration case】

Case 1: The dynamic table entry is deleted 100s after the lease period is reached

```
OLT(config)# dhcp-snooping bind-table delete-time 100

OLT(config)#
```

21.1.19.Write DHCP-Snooping snooping table to Flash

Command syntax	OLT(config)# **dhcp-snooping bind-table write-to-flash**
Applicable view	config view
Function Description	This command is used to manually write the DHCP snooping binding table to flash

【Configuration case】

Case 1: Write the DHCP snooping binding table to flash immediately

```
OLT(config)# dhcp-snooping bind-table write-to-flash

OLT(config)#
```

21.1.20.Upload the DHCP-Snooping listening table to the server

Command syntax	OLT(config)# **dhcp-snooping bind-table save-to-tftp <IP address>**
Applicable view	config view
Function Description	This command is used to manually write the DHCP snooping binding table into flash and upload it to the tftp server.
<IP address>	Upload binding entries to the IP address of the TFTP server

【Configuration case】

Case 1: Write the DHCP snooping binding table to the flash immediately and upload it to the TFTP server 192.168.1.1

```
OLT(config)# dhcp-snooping bind-table save-to-tftp 192.168.1.1
```

```
OLT(config)#
```

21.1.21.Check DHCP-Snooping binding information

Command syntax	OLT(config)# **show dhcp-snooping bind-table {all | static | dynamic | ip-address | vlan <vlan-id> }**
Applicable view	config view
Function Description	This command is used to display the entries of the DHCP snooping binding table by type.
all	Show all the entries of the listening binding table:
static	Displays the entries of the static listening binding table
dynamic	Displays the entries of the dynamic listening binding table
IP-address	Displays the entry of the listening binding table of the specified IP
vlan	Display the listening entries in the specified vlanID

【Configuration case】

Case 1: Display all binding information of DHCP Snooping

```
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)#
```

21.1.22.Configuring DHCP-Snooping ARP fast reply function

Command syntax	OLT(config)# **dhcp-snooping arp-reply-fast enable|disable**
Applicable view	config view
Function Description	This command is used to enable or disable the ARP fast reply function. After enabling, judge whether to perform ARP fast response according to the DHCP Snooping entry. When the function is enabled, listen for ARP packets. If the corresponding

	record can be found in the DHCP Snooping entry, the ARP request packet will not be forwarded to the upstream network, but will be based on Entry information quickly responds to ARP requests, thereby reducing ARP broadcast packets.
enable |disable	Enable: Enable the dhcp-snooping arp-reply-fast function Disable: Disable the dhcp-snooping arp-reply-fast function

【Configuration case】

Case 1: Enabling the dhcp-snooping arp-reply-fast function

```
OLT(config)# dhcp-snooping arp-reply-fast enable

OLT(config)#
```

21.2.OLT DHCP-Client function configuration management

21.2.1.Configure DHCP-Client

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-client enable|disable**
Applicable view	vlanif view
Function Description	This command is used to enable/disable the DHCP client function on a Layer 3 interface.
enable |disable	Enable: Enable DHCP client function Disable: Disable the DHCP client function

【Configuration case】

Case 1: Enable the DHCP client function of interface vlanif100

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

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

21.2.2.Obtain DHCP-Client IP manually

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-client renew**
Applicable view	vlanif view
Function Description	This command is used to enable the renew switch on the interface in Layer 3 interface mode. When you need to actively obtain an IP for an interface, you can execute this command, which will trigger the sending of a request packet and initiate a lease renewal or IP re-application request to the DHCP Server.

【Configuration case】

Case 1: Enable the renew switch of interface vlanif100.

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

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

21.2.3.Manually release the DHCP-Client IP

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-client release**
Applicable view	vlanif view
Function Description	This command is used to release the IP of the interface in Layer 3 interface mode. When the IP dynamically applied for by the interface needs to be deleted, this command can be executed, and a release message will be actively triggered to notify the DHCP Server to release the IP of the interface.

【Configuration case】

Case 1: Release the IP of interface vlanif100

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

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

21.2.4.Configure the DHCP- Client option60 domain

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-client option60 <option60>**
Applicable view	vlanif view
Function Description	This command is used to configure option60 information carried by the DHCP-Client when sending request packets. When the upstream device is configured with DHCP Layer 3 relay according to option60, you can use this command to configure option60 information of the interface to match the configuration of the upstream device. The no command is used to cancel the option60 information configured by the user and restore it to the default value.
<option60>	Configuration information at option60.

【Configuration case】

Case 1: Configure the option60 information of the dhcp-client of vlanif100 as "test".

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

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

21.2.5.View DHCP-Client configuration

Command syntax	OLT(config)# **show dhcp-client**
Applicable view	config view
Function Description	This command is used to query the basic information after the DHCP Client function is enabled.

【Configuration case】

Case 1: Query the basic information of all dhcp client-enabled interfaces

```
OLT(config)# show dhcp-client
------------------------------------------------- -------------------------
Index Name FSM IP|MASK Leased Until Time
------------------------------------------------- -------------------------
1 vlanif100 INIT -|- -
------------------------------------------------- -------------------------

OLT(config)#
```

21.2.6.Check the DHCP-Client option60 field

Command syntax	OLT(config)# **show dhcp-client option60**
Applicable view	config view
Function Description	This command is used to query the DHCP-Client option60 information configured on each VLAN Layer 3 interface in the system.

【Configuration case】

Case 1: View the DHCP-Client option60 information configured on all Layer 3 interfaces

```
OLT(config)# show dhcp-client option60
------------------------------------------------- -------------------------
VLANIF OPTION60
------------------------------------------------- -------------------------
100 tests
------------------------------------------------- -------------------------

OLT(config)#
```

21.3.DHCP- Server function configuration

21.3.1.configure DHCP- Server function

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-server { enable|disable }**
Applicable view	Interface view
Function Description	This command is used to enable or disable the dhcp- server function . By default, the dhcp-server thread is disabled.
enable |disable	Enable: Enable the dhcp-snooping function Disable: Disable the dhcp-snooping function

【Configuration case】

Case 1: Enable dhcp- server function

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# dhcp-server enable
```

21.3.2.Configure the size of the DHCP- Server address pool

Command syntax	OLT(config-interface-vlanif-100)# **dhcp-server ip-range XXXX XXXX**
Applicable view	Interface view
Function Description	This command is used to configure the address pool size.
XXXX	The starting IP address and ending IP address of the IP address pool

【Configuration case】

Case 1: Configure the address pool size of vlanif 100 to be 1.1.1.1 to 1.1.1.10.

```
OLT(config)# interface vlanif 100
OLT(config-interface-vlanif-100)# dhcp-server ip-range 1.1.1.1 1.1.1.10
```

21.3.3.Check the allocation status of the DHCP- Server address pool

Command syntax	OLT(config)# **show dhcp-server ip-pool status**
Applicable view	config view, dhcp-server view
Function Description	This command is used to view the allocation status of the

	Dhcp-Server address pool.

【Configuration case】

Case 1: Check the allocation status of the dhcp-server address pool.

```
OLT(config)# show dhcp-server ip-pool status
Pool-name : vlanif 10
lease time : 604800
Server-name : cdata
DNS-server : 8.8.8.8
NBNS-server : 9.9.9.9
Gateway : 192.168.3.2
Mask : 255.255.255.0
Status : Enable
------------------------------------------------- ------------------------------
Start End Total Used Idel(Expired) Conflict
------------------------------------------------- ------------------------------
192.168.3.0 192.168.18.255 4096 254 3841(0) 1
```

21.3.4.Configure the subnet mask assigned by DHCP- Server

Command syntax	OLT(config-dhcp-server)# **dhcp-server mask XXXX**
Applicable view	dhcp-server view
Function Description	This command is used to configure the subnet mask assigned by dhcp-server.
XXXX	subnet mask

【Configuration case】

Case 1: Configure the subnet mask assigned by dhcp-server to be 255.255.255.0.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server mask 255.255.255.0
```

21.3.5.Configure the DHCP- Server gateway address

Command syntax	OLT(config-dhcp-server)# **dhcp-server gateway XXXX**
Applicable view	dhcp-server view
Function Description	This command is used to configure the gateway address of

	dhcp-server.
XXXX	Gateway IP address

【Configuration case】

Case 1: Configure the gateway address of dhcp-server as 1.1.1.1.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server gateway 1.1.1.1
```

21.3.6.Configure DHCP- Server to assign minimum (maximum) lease time

Command syntax	OLT(config-dhcp-server)# **dhcp-server lease-time {MIN_LEASE_SEC|MAX_LEASE_SEC}**
Applicable view	dhcp-server view
Function Description	This command is used to configure dhcp-server to allocate minimum (maximum) lease time.
MIN_LEASE_SEC	Minimum allocation lease time in s
MAX_LEASE_SEC	Maximum allocated lease time in s

【Configuration case】

Case 1: Configure dhcp-server to allocate a minimum lease time of 60s.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server lease-time 60
```

21.3.7.Configuring DHCP- Server Static Binding

Command syntax	OLT(config-dhcp-server)# **dhcp-server static-bind XXXX HH-HH-HH**
Applicable view	dhcp-server view
Function Description	This command is used to configure dhcp-server static binding.
XXXX	ip address
HH-HH-HH	mac address

【Configuration case】

Case 1: Configure dhcp-server to bind IP address and mac address statically.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server static-bind 192.168.10.2 00:0f:1f:c5:10:08
```

21.3.8.Configure the DNS address of the DHCP- Server

Command syntax	OLT(config-dhcp-server)# **dhcp-server dns X.X.X.X**
Applicable view	dhcp-server view
Function Description	This command is used to configure the DNS address of dhcp-server.
X.X.X.X	DNS address

【Configuration case】

Case 1: Configure the DNS address of dhcp-server as 192.168.10.1.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server dns 192.168.10.1
```

21.3.9.Configure the name of the DHCP- Server

Command syntax	OLT(config-dhcp-server)# **dhcp-server server-name STRING**
Applicable view	dhcp-server view
Function Description	This command is used to configure the name of dhcp-server.
STRING	The name of the set dhcp-server

【Configuration case】

Case 1: Configure the name of dhcp-server as dhcp1.

```
OLT(config)# dhcp-server

OLT(config-dhcp-server)# dhcp-server server-name dhcp1
```

21.4.OLT DHCP-Relay function configuration

21.4.1.Enable/disable dhcp-relay function

Command syntax	OLT(config)# **dhcp - relay enable|disale**

Applicable view	config view
Function Description	This command is used to enable or disable the dhcp-relay function. After enabling, the DHCP relay function will be enabled.
enable |disable	Enable: Enable the dhcp-relay function Disable: disable the dhcp-relay function

【Configuration case】

Case 1: Enable dhcp-relay function

```
OLT(config)# dhcp-relay enable
```

21.4.2.Configure the ip address of the dhcp-relay server

Command syntax	OLT(config)# **dhcp-relay vlanif <vlan-id> server <IP address>**
Applicable view	config view
Function Description	This command is used to configure the IP address of the dhcp-relay server in the vlan interface
<IP address>	IP address of the dhcp-relay server in the Vlan interface

【Configuration case】

Case 1: Configure the service address of the dhcp-relay of vlan interface 100 to 192.168.100.1

```
OLT(config)# dhcp-relay vlanif 100 server 192.168.100.1
```

21.4.3.delete dhcp-relay server vlan

Command syntax	OLT(config)# **no dhcp-relay vlanif <vlan-list>**
Applicable view	config view
Function Description	This command is used to delete the vlan of the dhcp-relay server in the vlan interface
<vlan-list>	List of Vlans in the range 1-4094

【Configuration case】

Case 1: Delete the vlan interface 100 of the dhcp-relay server

```
OLT(config)# no dhcp-relay vlanif 100
```

21.4.4.View dhcp-relay function configuration

Command syntax	OLT(config)# **show dhcp-relay configuration**
Applicable view	config view
Function Description	This command is used to view the configuration of dhcp-relay

【Configuration case】

Case 1: View dhcp-relay configuration information

```
OLT(config)# show dhcp-relay configuration
---------------------------------------------- ----------------------------------------
Switch DHCP Relay status : Enable
---------------------------------------------- ----------------------------------------
Vlanif Vlanif-Ip Vlanif-netmask Server-Ip
---------------------------------------------- ----------------------------------------
101 - - 192.168.101.1
---------------------------------------------- ----------------------------------------
```

22.OLT AAA function configuration

22.1.AAA mode

22.1.1.Enter AAA mode

Command syntax	OLT(config)# **aaa**
Applicable view	config view
Function Description	This command is used to enter AAA mode.

【Configuration case】

Case 1: Enter aaa mode.

```
OLT(config)# aaa

OLT(config-aaa)#
```

22.1.2.View AAA configuration information

Command syntax	OLT(config-aaa)# **show aaa configuration**
Applicable view	aaa view
Function Description	This command is used to view AAA configuration information. Note: Based on glob mode.

【Configuration case】

Case 1: View aaa configuration information.

```
OLT(config-aaa)# show aaa configuration
---------------------------------------------- ----------------------------------------
AAA configuration information :
---------------------------------------------- ----------------------------------------
Domain-delimiter : @
Domain : total: 255 used: 1
Authentication-scheme : total: 16 used: 1
Local-user : total: 1024 used: 1
Radius-server template : total: 128 used: 0
Tac-plus-server template : total: 128 used: 0
AAA-access-user : total: 32768 used: 0
---------------------------------------------- ----------------------------------------

OLT(config-aaa)#
```

22.1.3.Configure Domain Name Separator

Command syntax	OLT(config-aaa)# **domain-delimiter STRING**
Applicable view	aaa view
Function Description	This command is used to configure the domain name separator. Note: Based on glob mode.
STRING	This command is used to configure the domain name separator. Support @, /, . , \, the default is '@', when the delimiter is '\', the domain is in the front, userName is in the back, that is, domain\user-name, other delimiters userName is in the front, domain is in the back . Note: Based on glob mode.

【Configuration case】

Case 1: Configure the domain name separator as '\' .

```
OLT(config-aaa)# domain-delimiter \

OLT(config-aaa)# show aaa configuration
------------------------------------------------- ------------------------------------
AAA configuration information :
------------------------------------------------- ------------------------------------
Domain-delimiter : \
Domain : total: 255 used: 1
Authentication-scheme : total: 16 used: 1
Local-user : total: 1024 used: 1
Radius-server template : total: 128 used: 0
Tac-plus-server template : total: 128 used: 0
AAA-access-user : total: 32768 used: 0
------------------------------------------------- ------------------------------------

OLT(config-aaa)#
```

22.2.Configure Authentication Mode

Command syntax	OLT(config-aaa-authen-hw) # **authentication-mode (local | radius | radius-local |tac-plus|tac-plus-local)**
Applicable view	authentication-scheme view
Function Description	This command is used to configure authentication mode.
local	Specify the authentication mode as local authentication.
radius	Specify the authentication mode as RADIUS authentication.
radius-local	Specify the authentication mode as RADIUS plus local authentication.
tac-plus	Specify the authentication mode as HWTACACS authentication.
tac-plus-local	Specify the authentication mode as HWTACACS authentication plus local authentication.

【Configuration case】

Case 1: Configure the authentication mode as local authentication.

```
OLT(config-aaa-authen-hw)# authentication-mode local

OLT(config-aaa-authen-hw)#
```

22.3.local user configuration

22.3.1.Create local user (based on AAA mode)

Command syntax	OLT(config -aaa)# **local-user USERNAME password USER-PASSWORD service-type (terminal level <level-value> | dot1x |onu)**
Applicable view	aaa view
Function Description	This command is used to configure local users based on AAA mode.
USERNAME	username
USER-PASSWORD	user password
dot1x	User type is 802.1x user
onu	User type is onu user
terminal	User type is end user
<level-value>	Configure End User Levels

【Configuration case】

Case 1: Configure a local user aa based on AAA mode, and set its user type to onu user .

```
OLT(config-aaa)# local-user aa password ****** service-type onu

OLT(config-aaa)#
```

Case 2 : Configure a local user hw based on AAA mode, and set its user type to terminal user and its terminal level to 5 .

```
OLT(config-aaa)# local-user hw password ****** service-type terminal level 5

OLT(config-aaa)#
```

22.3.2.Configure the local user terminal level

Command syntax	OLT(config -aaa)# **local-user USERNAME level <level-value>**
Applicable view	aaa view
Function Description	This command is used to set the local user level.
USERNAME	username

USER-PASSWORD	user password

【Configuration case】

Case 1: Set the terminal level of the local user hw to 10 .

```
OLT(config-aaa)# local-user hw level 10

OLT(config-aaa)#
```

22.3.3.Configure local user type

Command syntax	OLT(config -aaa)# **local-user USERNAME service-type (terminal | dot1x |onu)**
Applicable view	aaa view
Function Description	This command is used to set the local user type.
dot1x	User type is 802.1x user
onu	User type is onu user
terminal	User type is end user

【Configuration case】

Case 1: Set the user type of the local user hw to the onu user type .

```
OLT(config-aaa)# local-user hw service-type onu

OLT(config-aaa)#
```

22.3.4.View local users

Command syntax	OLT(config -aaa)# **show local-user (username USERNAME|domain DOMAIN-NAME|all)**
Applicable view	aaa view
Function Description	This command is used to delete a local user.
USERNAME	username
DOMAIN-NAME	domain name

【Configuration case】

Case 1: View all local users .

```
OLT(config-aaa)# show local-user all
---------------------------------------------- ----------------------------------
No. Username Service-type Level Online
---------------------------------------------- ----------------------------------
1 hhh X - 0
2 hw O - 0
---------------------------------------------- ----------------------------------
Note : Service-type T--Terminal, X--Dot1x, O--ONU, U--Unknown

OLT(config-aaa)#
```

22.4.radius server template configuration

22.4.1.Create a RADIUS server template

Command syntax	OLT(config)# **[no] radius-server template TEMPLATE-NAME**
Applicable view	config view
Function Description	radius-server template template-name is used to create a RADIUS server template and enter the RADIUS server template view. no radius-server template template-name is used to delete the RADIUS server template.
TEMPLATE-NAME	RADIUS server template view name

【Configuration case】

Case 1: Create a RADIUS server template named ra .

```
OLT(config)# radius-server template ra
Info: Create a new radius server template!

OLT(config-radius-ra)#
```

22.4.2.Configure RADIUS authentication server

Command syntax	OLT(config-radius-ra) # **radius-server authentication ABCD port PORT-LIST [secondary]**
Applicable view	radius-server template view

Function Description	This command is used to configure the RADIUS authentication server.
ABCD	RADIUS server ip
PORT-LIST	Server port, the value range is 1-65535.
secondary	Configure the secondary server ip and port

【Configuration case】

Case 1: Configure the IP of the RADIUS primary authentication server as 192.168.10.1 and the port number as 1024 .

```
OLT(config-radius-ra)# radius-server authentication 192.168.10.1 port 1024
OLT(config-radius-ra)#
```

22.4.3.Clear the configuration of the RADIUS authentication server

Command syntax	OLT(config-radius-ra) # no radius-server authentication [secondary]
Applicable view	radius-server template view
Function Description	This command is used to clear the configuration of the RADIUS authentication server.
secondary	Clear the configuration of the secondary server

【Configuration case】

Case 1: Clear the configuration of the RADIUS authentication server .

```
OLT(config-radius-ra)# no radius-server authentication 192.168.10.1 port 1024
OLT(config-radius-ra)#
```

22.4.4.Configuring the Shared Key of the RADIUS Authentication Server

Command syntax	OLT(config-radius-ra) # radius-server shared-key USER-PASSWORD
Applicable view	radius-server template view
Function Description	This command is used to configure the shared key of the RADIUS authentication server.

USER-PASSWORD	Shared key that needs to be set

【Configuration case】

Case 1: Configure the shared key of the RADIUS authentication server as 123456789 .

```
OLT(config-radius-ra)# radius-server shared-key ******

OLT(config-radius-ra)#
```

22.4.5.Configure the padding address of the specified NAS-IP-Address field

Command syntax	OLT(config-radius-ra) # **radius-server source-interface (mgmt|vlanif VLAN_CMD_STR)**
Applicable view	radius-server template view
Function Description	This command is used to specify the filling address of the NAS-IP-Address field of the packet sent to the RADIUS server.
mgmt	Specifies that the fill address of the NAS-IP-Address field is the ip address of the mgmt interface
vlanif	Specifies that the fill address of the NAS-IP-Address field is the ip address of the vlanif interface
VLAN_CMD_STR	vlanif interface id

【Configuration case】

Case 1: Specify the ip address of vlanif 1024 as the filling address of the NAS-IP-Address field of the packet sent to the RADIUS server .

```
OLT(config-radius-ra)# radius-server source-interface vlanif 1024

OLT(config-radius-ra)#
```

22.4.6.Configure whether the specified username field carries the domain name

Command syntax	OLT(config-radius-ra) # **[no] radius-server user-name domain-included**
Applicable view	radius-server template view

Function Description	This command is used to specify whether the username field of packets sent to the RADIUS server carries the domain name. (Note: If the username itself does not have a domain name, even if domain-included is configured, it will not have a domain name).

【Configuration case】

Case 1: Configure the username field of the specified packet sent to the RADIUS server to carry the domain name .

```
OLT(config-radius-ra)# radius-server user-name domain-included

OLT(config-radius-ra)#
```

22.4.7.Query radius configuration information

Command syntax	OLT(config) # **show radius-server (all|template TEMPLATE-NAME)**
Applicable view	config view
Function Description	This command is used to query radius configuration information.

【Configuration case】

Case 1: Query radius configuration information .

```
OLT(config)# show radius-server all
------------------------------------------------ ----------------------------------------
Server-template-name : ra
Shared-secret-key : 48<159=26
Domain-included : Yes
Server-source-interface : vlanif1024
User-level : vendor_id:- tlv_type:-
Primary-authentication-server : 192.168.10.1:1024
Secondary-authentication-server : 0.0.0.0:0
Bind-counter : 0
------------------------------------------------ ----------------------------------------

OLT(config)#
```

22.5.tacacs+ server template configuration

22.5.1.Create tacacs+server template

Command syntax	OLT(config)# **[no] tac-plus-server template TEMPLATE-NAME**
Applicable view	config view
Function Description	tac-plus-server template TEMPLATE-NAME is used to create a tacacs+ server template and enter the RADIUS server template view. no tac-plus-server template TEMPLATE-NAME is used to delete the tacacs+ server template.
TEMPLATE-NAME	tacacs+server template view name

【Configuration case】

Case 1: Create a tacacs+server template named tac1 .

```
OLT(config)# tac-plus-server template tac1
Info: Create a new tacacs plus server template!

OLT(config-tac-plus-tac1)#
```

22.5.2.Configure tacacs+ authentication server

Command syntax	OLT(config-tac-plus-tac1) # **tac-plus-server authentication ABCD port PORT-LIST**
Applicable view	tacacs-plus-server template view
Function Description	This command is used to configure the RADIUS authentication server.
A.BCD	tacacs+server ip
PORT-LIST	Server port, the value range is 1-65535.

【Configuration case】

Case 1: Configure the IP of the tacacs+ authentication server as 192.168.10.1 and the port number as 1024 .

```
OLT(config-tac-plus-tac1)# tac-plus-server authentication 192.168.10.1 port 1024

OLT(config-tac-plus-tac1)#
```

22.5.3.Configure the shared key of the tacacs+ authentication server

Command syntax	OLT(config-tac-plus-tac1) # **tac-plus-server shared-key USER-PASSWORD**
Applicable view	tacacs-plus-server template view
Function Description	This command is used to configure the shared key of the tacacs+ authentication server.
USER-PASSWORD	Shared key that needs to be set

【Configuration case】

Case 1: Configure the shared key of the tacacs+ authentication server as 123456789 .

```
OLT(config-tac-plus-tac1)# tac-plus-server shared-key *********

OLT(config-tac-plus-tac1)#
```

22.5.4.Configure the fill address of the specified remote_addr field

Command syntax	OLT(config-tac-plus-tac1) # **tac-plus-server source-interface (mgmt|vlanif VLAN_CMD_STR)**
Applicable view	tacacs-plus-server template view
Function Description	This command is used to specify the filling address of the remote_addr field of the packet sent to the tacacs-plus server.
mgmt	Specifies that the fill address of the remote_addr field is the ip address of the mgmt interface
vlanif	Specifies that the fill address of the remote_addr field is the ip address of the vlanif interface
VLAN_CMD_STR	Vlanif interface id

【Configuration case】

Case 1: Specify the ip address of vlanif 2048 as the filling address of the remote_addr field of the message sent to the tacacs-plus server .

```
OLT(config-tac-plus-tac1)# tac-plus-server source-interface vlanif 2048

OLT(config-tac-plus-tac1)#
```

22.5.5.Configure whether the specified user field carries the domain name

Command syntax	OLT(config-tac-plus-tac1) # **[no] tac-plus-server user-name domain-included**
Applicable view	tacacs-plus-server template view
Function Description	This command is used to specify whether the user field of the packet sent to the tacacs-plus server carries a domain name (Note: If the user name itself does not carry a domain name, even if domain-included is configured, it does not carry a domain name).

【Configuration case】

Case 1: Configure the user field of the specified packet sent to the tacacs-plus server to carry the domain name .

```
OLT(config-tac-plus-tac1)# tac-plus-server user-name domain-included

OLT(config-tac-plus-tac1)#
```

22.5.6.Query tacacs+ configuration information

Command syntax	OLT(config) # **show tac-plus-server (all|template EMPLATE-NAME)**
Applicable view	config view
Function Description	This command is used to query tacacs+ configuration information.

【Configuration case】

Case 1: Query tacacs+ configuration information .

```
OLT(config)# show tac-plus-server all
------------------------------------------------ ----------------------------------------
Server-template-name : 1
Shared-secret-key : 48<159
Domain-included : Yes
Server-source-interface : mgmt
Authentication-server : 0.0.0.0:0
Bind-counter : 0
------------------------------------------------ ----------------------------------------
```

22.6.Domain configuration

22.6.1.Create domain

Command syntax	OLT(config -aaa)# **[no] domain DOMAIN-NAME**
Applicable view	aaa view
Function Description	domain DOMAIN-NAME Create domain and enter domain view or enter an existing domain view. no domain DOMAIN-NAME is used to delete a domain.
DOMAIN-NAME	domain name

【Configuration case】

Case 1: Create a domain named domain1 .

```
OLT(config-aaa)# domain domain1
Info: Create a new domain!

OLT(config-aaa-domain-domain1)#
```

22.6.2.Binding Authentication Template

Command syntax	OLT(config -aaa)# **authentication-scheme SCHEME-NAME**
Applicable view	aaa view
Function Description	This command is used to bind the authentication template.
SCHEME-NAME	The name of the configured authentication template.

【Configuration case】

Case 1: Bind an authentication template named a .

```
OLT(config-aaa)# authentication-scheme a
Info: Create a new authentication scheme!

OLT(config-aaa-authen-a)#
```

22.6.3.Binding a RADIUS server template

Command syntax	OLT(config-aaa-domain-domain1)# **radius-server TEMPLATE-NAME**
Applicable view	domain view

Function Description	This command is used to bind a RADIUS server template.
TEMPLATE-NAME	Name of the bound RADIUS server template.

【Configuration case】

Case 1: Bind the RADIUS server template named ra .

```
OLT(config-aaa-domain-domain1)# radius-server ra

OLT(config-aaa-domain-domain1)#
```

22.6.4.Bind tacacs plus server template

Command syntax	OLT(config-aaa-domain-domain1)# **tac-plus-server TEMPLATE-NAME**
Applicable view	domain view
Function Description	This command is used to bind the tacacs plus server template.
TEMPLATE-NAME	Binding tacacs plus server template name

【Configuration case】

Case 1: Bind a tacacs plus server template named tac1 .

```
OLT(config-aaa-domain-domain1)# tac-plus-server tac1

OLT(config-aaa-domain-domain1)#
```

22.6.5.Query domain configuration information

Command syntax	OLT(config) # **show domain (all|DOMAIN-NAME)**
Applicable view	config view
Function Description	This command is used to query domain configuration information.
DOMAIN-NAME	Specifies the domain name of the domain that needs to be queried.

【Configuration case】

Case 1: Query the configuration information of all domains .

```
OLT(config-aaa)# show domain all
---------------------------------------------- ------------------------------------
No. Domain-name Online
---------------------------------------------- ------------------------------------
1 default 0
2 ddd 0
3 eee 0
4 domain1 0
---------------------------------------------- ------------------------------------
OLT(config-aaa)#
```

23.802.1X function

23.1.1.Enable or disable port dot1x

Command syntax	OLT(config-interface-ge-0/0)# **dot1x PORT-LIST (enable | disable)**
Applicable view	GE interface view or XGE interface view or gpon interface view
Function Description	This command is used to enable or disable port 802.1x. By default, it is off.
PORT-LIST	Port number, such as 1,2-3,4, etc.

【Configuration case】

Case 1: Enable dot1x of port G1 port .

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# dot1x 1 enble
```

23.1.2.Globally enable 802.1x (dot1x)

Command syntax	OLT(config)# **dot1x {enable | disable}**
Applicable view	config view
Function Description	This command is used to globally enable or disable dot1x. By default, dot1x is off.
enable | disable	enable: enable dot1x disable: disable dot1x

【Configuration case】

Case 1: Enable 802.1x(dot1x) .

```
OLT(config)# dot1x enable

OLT(config)#
```

23.1.3.Configure how dot1x performs access control on a specified interface

Command syntax	OLT(config-interface-ge-0/0)# **dot1x port-method PORT-LIST (macbased | portbased |onubased)**
Applicable view	GE interface view or XGE interface view or gpon interface view
Function Description	This command is used to configure how 802.1x performs access control on the specified interface. By default, the access control mode adopted by the port is macbased.
PORT-LIST	Port number, such as 1,2-3,4
macbased	The access user is authenticated based on the mac address, that is, all access users under the port need to be authenticated separately. When a user goes offline, only the user cannot use the network.
portbased	Indicates that the access user is authenticated based on the port, that is, as long as the first user under the port is authenticated successfully, other access users can use network resources without authentication, but when the first user goes offline, other users will also Denied access to the network.
onubased	In the ONU-based access control mode, that is, as long as the first user under the ONU is authenticated successfully, other access users can use network resources without authentication, but when the first user goes offline, other users will also be blocked. refuse to use the Internet. (Note: This access control method is controlled by turning ON/OFF the ONU service flow on the 8022 sdk on EPON OLT, and by turning on/off all service-ports of ONU on GPON OLT)

【Configuration case】

Case 1: Configure the 802.1x access control method on the GE1 port as macbased .

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

OLT(config-interface-ge-0/0)# dot1x port-method 1 macbased
```

23.1.4.View the configuration information of dot1x on the port

Command syntax	OLT(config-interface-ge-0/0)# **show dot1x PORT-LIST**
Applicable view	GE interface view or XGE interface view or gpon interface view
Function Description	This command is used to view the configuration information of 802.1x on the specified port.
PORT-LIST	Port number, such as 1,2-3,4, etc.

【Configuration case】

Case 1: View the configuration information of the GE1 port .

```
OLT(config-interface-ge-0/0)# show dot1x 1
---------------------------------------------- ----------------------------------------
IEEE 802.1x: disable
Authentication method : chap
Port-control : auto
Port-method : macbased
User-max-number : 256

Port-state : common
User-online-number : 0
---------------------------------------------- ----------------------------------------

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

23.1.5.Configure the authorization status of the specified port

Command syntax	OLT(config-interface-ge-0/0)# **dot1x port-control PORT-LIST (authorized-force | auto | unauthorized-force)**
Applicable view	GE interface view or XGE interface view or gpon interface view
Function Description	This command is used to configure the authorization status of the specified port. By default, the authorization state of the port is auto.
PORT-LIST	Port number, such as 1,2-3,4, etc.
authorized-force	Mandatory authorization means that the port is always in the authorized state, allowing users to access network resources without authentication.
auto	Automatic identification (auto): Indicates that the initial state of the port is an unauthorized state, only allowing EAPOL packets to be sent and received, and not allowing users to access network resources; if the user passes the authentication, the port switches to the

	authorized state, allowing users to access network resources. This is also the most commonly used state.
unauthorized-force	Mandatory non-authorization means that the port is always in the non-authorized state and users are not allowed to authenticate. The device side does not provide authentication services for clients accessing through this port.

【Configuration case】

Case 1: Configure the authorization status of the GE1 port as authorized-force.

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

OLT(config-interface-ge-0/0)# dot1x port-control 1 authorized-force

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

23.1.6.View dot1x information of ONU ports

Command syntax	OLT(config-interface-gpon-0/0)# **show dot1x ont PORT-LIST {all | ONT-ID}**
Applicable view	gpon interface view
Function Description	This command is used to display
PORT-LIST	Port number, such as 1,2-3,4, etc.

【Configuration case】

Case 1: Display.

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

OLT(config-interface-gpon-0/0)# show dot1x ont 1 all
------------------------------------------------- ----------------------------------------
Onu-ID Onu-state User-online-number
4 unauthorized 0
------------------------------------------------- ----------------------------------------
```

23.1.7.Configure the maximum number of accesses to a specified port

Command syntax	OLT(config-interface-ge-0/0)# **dot1x user-max PORT-LIST USER-NUMBER**
Applicable view	GE interface view or XGE interface view or gpon interface view

Function Description	This command is used to configure the maximum number of accesses to the specified port.
PORT-LIST	Port number, such as 1,2-3,4, etc.
USER-NUMBER	The maximum number of accesses, the value range is 0-1024

【Configuration case】

Case 1: Configure the maximum access quantity of G1 port to 100 .

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

OLT(config-interface-ge-0/0)# dot1x user-max 1 100

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

23.1.8.Display access user information

Command syntax	OLT(config-interface-ge-0/0)# **show dot1x access-user {PORT-LIST | all}**
Applicable view	GE interface view or XGE interface view or gpon interface view or config view
Function Description	This command is used to display the access user information of the specified port or all ports.
PORT-LIST	Port number, such as 1,2-3,4, etc.

【Configuration case】

Case 1: Display the access user information of the G1 port .

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

OLT(config-interface-ge-0/0)# show dot1x access-user 1
No access users!

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

Case 2 : View the access user information of all ports in the config view .

```
OLT(config)# show dot1x access-user all
No access users!

OLT(config)#
```

23.1.9.Configure the authentication control mode of the specified port

Command syntax	OLT(config-interface-ge-0/0)# **dot1x authentication-method PORT-LIST {chap | eap}**
Applicable view	GE interface view or XGE interface view or gpon interface view
Function Description	This command is used to display the access user information of the specified port. It should be noted that if the authentication method is tacacs+server authentication, the eap relay mode is not supported.
PORT-LIST	Port number, such as 1,2-3,4, etc.
chap	end mode
eap	repeater mode

【Configuration case】

Case 1: Configure the authentication control mode of the G1 port as chap termination mode .

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

OLT(config-interface-ge-0/0)# dot1x authentication-method 1 chap

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

23.1.10.Configuring the Client Authentication Timeout Timer

Command syntax	OLT(config)# **dot1x timeout supp-timeout <value>**
Applicable view	config view
Function Description	This command is used to configure the time value of the client authentication timeout timer. By default, the client authentication timeout timer is 30 seconds.
value	The time that needs to be configured, the value range is 1-60 seconds.

【Configuration case】

Case 1: Configure the client authentication timeout timer to 30 seconds .

```
OLT(config)# dot1x timeout supp-timeout 30

OLT(config)#
```

23.1.11.Configuring the Authentication Server Timeout Timer

Command syntax	OLT(config)# **dot1x timeout server-timeout <value>**
Applicable view	config view
Function Description	This command is used to configure the time value of the authentication server timeout timer. By default, the authentication server timeout timer is 30 seconds.
value	The time that needs to be configured, the value range is 1-60 seconds.

【Configuration case】

Case 1: Configure the authentication server timeout timer to 10 seconds .

```
OLT(config)# dot1x timeout server-timeout 10

OLT(config)#
```

23.1.12.Configuring the Periodic Reauthentication Timer

Command syntax	OLT(config)# **dot1x timeout reauth-period <value>**
Applicable view	config view
Function Description	This command is used to configure the time value of the periodic re-authentication timer. By default, the value of the periodic re-authentication timer is 3600 seconds.
value	The time value that needs to be configured, the value range is 10-5184000, unit: second

【Configuration case】

Case 1: Configure the period value of the periodic re-authentication timer to be 7200 seconds .

```
OLT(config)# dot1x timeout reauth-period 7200

OLT(config)#
```

23.1.13.Configuring periodic re-authentication

Command syntax	OLT(config)# **dot1x re-authentication {enable | disable}**
Applicable view	config view
Function Description	This command is used to configure the periodic re-authentication function. By default, the periodic re-authentication function is disabled.
enable | disable	enable: enable the periodic re-authentication function disable: disable the periodic re-authentication function

【Configuration case】

Case 1: Enable the periodic re-authentication timing function .

```
OLT(config)# dot1x re-authentication enable

OLT(config)#
```

23.1.14.Configure the silent function

Command syntax	OLT(config)# **dot1x quiet-period {enable | disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the silent function. By default, the silent function is disabled.
enable | disable	enable: enable the silent function disable: disable the silent function

【Configuration case】

Case 1: Enable the silent function .

```
OLT(config)# dot1x quiet-period enable

OLT(config)#
```

23.1.15.Configure the silent timer

Command syntax	OLT(config)# **dot1x timeout quiet-period <value>**
Applicable view	config view
Function	This command is used to configure the time value of the silent timer.

Description	By default, the silent timer is 60 seconds.
value	The time value that needs to be configured, the value range is 10-5184000, unit: second

【Configuration case】

Case 1: Configure the time value of the silent timer to be 7200 seconds .

```
OLT(config)# dot1x timeout quiet-period 7200

OLT(config)#
```

23.1.16.View some configuration information of the current dot1x

Command syntax	OLT(config)# **show current-config section dot1x [(include|exclude) STRING]**
Applicable view	config view
Function Description	This command is used to view part of the current 802.1x configuration information.
include	Match contains regular expression
exclude	match does not contain regular expressions
STRING	Regular expression string to match, 1-64 bytes long

【Configuration case】

Case 1: View part of the current 802.1x configuration information .

```
OLT(config)# show current-config section dot1x
interface ge 0/0
dot1x port-control 1 authorized-force
dot1x user-max 1 100

OLT(config)#
```

Case 2 : View the current 802.1x configuration information including user .

```
OLT(config)# show current-config section dot1x include us e r
dot1x user-max 1 100

OLT(config)#
```

23.1.17.Display dot1x configuration information globally

Command syntax	OLT(config)# **show dot1x**

Applicable view	config view
Function Description	This command is used to display 802.1x configuration information.

【Configuration case】

Case 1: Display 802.1x configuration information .

```
OLT(config)# show dot1x
---------------------------------------------- ----------------------------------------
IEEE 802.1x: disable
ReAuthEn : disable
QuietEn : disable
ReAuth-period(s) : 7200
Supp-timeout(s) : 30
Server-timeout(s) : 30
quiet-period(s) : 60
---------------------------------------------- ----------------------------------------

OLT(config)#
```

24.IP SourceGaurd Features

24.1.Configuring the IP SourceGaurd Function

Command syntax	OLT(config)# **ip-source check port port-type F/SP**
Applicable view	config view
Function Description	This command is used to enable the IPSG function of the specified port. IPSG is short for IP Source Guard. IPSG can prevent attacks that spoof the source IP address. The IPSG function is based on the binding table (DHCP dynamic and static binding table) to check the matching of IP packets. When the device is forwarding IP packets, it compares the source IP, source MAC, interface, and VLAN information in the IP packet with the information in the binding table. If the information matches, it indicates that the user is a legitimate user, and the packet is allowed

	to be normal. Otherwise, it is regarded as an attack packet, and the IP packet is discarded.
port-type	Port type, including gpon|ge|xge type
F/S P	port number, e.g. 0/0 1

【Configuration case】

Case 1: Enable the IPSG function of the specified port ge 0/0 1 .

```
OLT(config) # ip-source check port ge 0/0 1

OLT(config) #
```

24.2.Disable IP SourceGaurd function

Command syntax	OLT(config)# **no ip-source check port port-type F/S P**
Applicable view	config view
Function Description	This command is used to disable the IPSG function of the specified port.
port-type	Port type, including gpon|ge|xge type
F/S P	port number, e.g. 0/0 1

【Configuration case】

Case 1: Disable the IPSG function of the specified port ge 0/0 1 .

```
OLT(config) # no ip-source check port ge 0/0 1

OLT(config) #
```

24.3.Configuring IP SourceGaurd dynamic table binding

Command syntax	OLT(config)# **ip-source check dhcp-snooping dynamic {enable|disable}**
Applicable view	config view
Function Description	This command is used to enable or disable the IPSG dynamic table binding function. Note: The IPSG dynamic table is generated based on the DHCP dynamic binding table, which will change with the change of the DHCP dynamic table. Before enabling the IPSG dynamic binding

	table function, you need to enable dhcp-snooping.
enable|disable	enable: Enable IPSG dynamic table binding function disable: Disable IPSG dynamic table binding function

【Configuration case】

Case 1: Enable IPSG dynamic table binding function .

```
OLT(config) # ip-source check dhcp-snooping dynamic enable

OLT(config) #
```

24.4.Configure IP SourceGaurd Static Rules

Command syntax	OLT(config)# **ip-source check check static rule (index| autoindex) (ip ip-addr | mac mac-addr)** OLT(config)# **ip-source check check static rule (index| autoindex) ip ip-addr { mac mac-addr | vlan vlan-id}** OLT(config)# **ip-source check check static rule (index| autoindex) mac mac-addr vlan vlan-id**
Applicable view	config view
Function Description	This command is used to configure IPSG static rules. When the configuration is the same as the dynamic rules, the configuration will fail.
index	Entry ID of IPSG entry <1-1024>
autoindex	Automatically assign IPSG entry IDs
ip-addr	IP address of the IPSG static entry, in dotted decimal format
mac-addr	The MAC address part of the IPSG static entry, in the format H:H:H:H:H:H
vlan-id	VLAN of the IPSG static entry, the value range is 1 to 4094

【Configuration case】

Case 1: Configure IPSG static rules .

```
OLT(config) # ip-source check static autoindex ip 10.1.1.10

OLT(config) #
```

24.5.Delete IP SourceGaurd static rule

Command syntax	OLT(config)# **no ip-source check check static rule (index| all)** OLT(config)# **no ip-source check check static rule entry-list**
Applicable view	config view
Function Description	This command is used to configure IPSG static rules. When the configuration is the same as the dynamic rules, the configuration will fail.
index	Entry ID of IPSG entry <1-1024>
entry-list	The id number of the IPSG entry (for example, 1,1-98,100). <1-1024>

【Configuration case】

Case 1: Delete all IPSG static rules .

```
OLT(config) # no ip-source check static rule all

OLT(config) #
```

24.6.Application of IP SourceGaurd Static Rules

Command syntax	OLT(config)# **ip-source check binding static rule index port port-type F/S P** OLT(config)# **ip-source check binding port port-type F/SP static rule entry-list**
Applicable view	config view
Function Description	This command is used to apply a static IPSG rule or a specified range to the specified port.
index	Entry ID of IPSG entry <1-1024>
entry-list	The id number of the IPSG entry (for example, 1,1-98,100). <1-1024>
port-type	Port type, including gpon|ge|xge type
F/S P	port number, e.g. 0/0 1

【Configuration case】

Case 1: Apply IPSG static rule rule 1 to the specified port ge 0/0 1,3-4 .

```
OLT(config) # ip-source check binding static rule 1 port ge 0/0 1,3-4

OLT(config) #
```

Case 2 : Apply IPSG static rule rule 1-10 to the specified port ge 0/0 1 .

```
OLT(config) # ip-source check binding port ge 0/0 1 static rule 1-10
```

```
OLT(config) #
```

24.7.Remove the IP SourceGaurd static rule for the port

Command syntax	OLT(config)# **no ip-source check binding static rule index port port-type F/S P** OLT(config)# **no ip-source check binding static rule port port-type F/SP entry-list**
Applicable view	config view
Function Description	This command is used to release the IPSG static rule of the specified port.
index	Entry ID of IPSG entry <1-1024>
entry-list	The id number of the IPSG entry (for example, 1,1-98,100). <1-1024>
port-type	Port type, including gpon|ge|xge type
F/S P	port number, e.g. 0/0 1

【Configuration case】

Case 1: Release the IPSG static rule rule 1 of the specified port ge 0/0 1 .

```
OLT(config) # no ip-source check binding static rule 1 port ge 0/0 1

OLT(config) #
```

Case 2 : Release the IPSG static rule rule 1-10 of the specified port ge 0/0 1 .

```
OLT(config) # no ip-source check binding static rule port ge 0/0 1 1-10

OLT(config) #
```

24.8.Querying IP SourceGaurd Entries

Command syntax	OLT(config)# **show ip-source check (static|dynamic) rule (ip ip-addr|mac mac-addr)** OLT(config)# **show ip-source check (static|dynamic) rule {vlan vlan-id|port port-type F/SP }** OLT(config)# **show ip-source check (static|dynamic) rule {all|entry-list}** OLT(config)# **show ip-source check rule {all|entry-list}**
Applicable view	config view
Function Description	This command is used to query IPSG entries.

static	IPSG static rule entry
dynamic	IPSG dynamic rule entry
ip-addr	IP address of the IPSG static entry, in dotted decimal format
mac-addr	The MAC address part of the IPSG static entry, in the format H:H:H:H:H:H
vlan-id	VLAN of the IPSG static entry, the value range is 1 to 4094
port-type	Port type, including gpon|ge|xge type
F/S P	port number, e.g. 0/0 1

【Configuration case】

Case 1: Query all IPSG entries .

```
OLT(config)# show ip-source check rule all
---------------------------------------------- ----------------------------------------
INDEX IP MAC VLAN TYPE PORT
---------------------------------------------- ----------------------------------------
1 101.0.0.3 -- -- Static ge0/0/1
---------------------------------------------- ----------------------------------------
Total: 1
---------------------------------------------- ----------------------------------------
```

24.9.Querying the Configuration of the IP SourceGaurd Function

Command syntax	OLT(config)# **show ip-source check config**
Applicable view	config view
Function Description	This command is used to query the configuration of the IPSG function.

【Configuration case】

Case 1: Query the configuration of port ge 0/0 1IPSG function .

```
OLT(config)# show ip-source check config

ip-source check
dhcp-snooping dynamic : disable

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

```
PORT IP Source Check
------------------------------------------- ------------------------------------
pon0/0/1 disable
pon0/0/2 disable
pon0/0/3 disable
pon0/0/4 disable
pon0/0/5 disable
pon0/0/6 disable
pon0/0/7 disable
pon0/0/8 disable
ge0/0/1 enable
ge0/0/2 disable
ge0/0/3 disable
ge0/0/4 disable
xge0/0/1 disable
xge0/0/2 disable
------------------------------------------- ------------------------------------
```

24.10.Query IP SourceGaurd Binding Table Information

Command syntax	OLT(config)# **show ip-source check brief port port-type F/S P** OLT(config)# **show ip-source check brief port all**
Applicable view	config view
Function Description	This command is used to query the binding table information of the specified port or all ports.
port-type	Port type, including gpon|ge|xge type
F/S P	Port number, e.g. 0/0 1,2-3,4

【Configuration case】

Case 1: Query the IPSG binding table information of the specified port ge 0/0 1 .

```
OLT(config)# show ip-source check brief port ge 0/0 1
------------------------------------------- ------------------------------------
PORT Static/Dynamic Binding Table
------------------------------------------- ------------------------------------

ge0/0/1 1

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

25.loop monitoring

25.1.Globally enable loop monitoring function

Command syntax	OLT(config)# **loopback-detection {enable|disable}**
Applicable view	config view
Function Description	This command is used to globally enable or disable the loop detection function

【Configuration case】

Case 1: The loop control monitoring function is globally enabled .

```
OLT(config)# loopback-detection enable

OLT(config)#
```

25.2.Configuring the loop monitoring function

Command syntax	OLT(config-interface-ge -0/0)# **loopback-detection <port-list> {enable|disable}**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to enable or disable loop monitoring. For an access port, if the system finds that the port is under loopback monitoring, it will perform corresponding operations on the port according to the loopback monitoring action, and report Trap information to the terminal. The port will no longer learn the MAC address, and the port will no longer forward traffic. For a trunk or hybrid port, if the system finds that the port is monitored by loopback, but the monitoring and controlled function is not configured, it will only report trap information to the terminal.
port-list	List of ports to be configured, the format is 1, 6-7, 8. The range of GE interfaces is 1-8; the range of XGE interfaces is 1-4.

【Configuration case】

Case 1: Enable the loop control monitoring function of the GE1 port .

```
OLT(config-interface-ge-0/0)# loopback-detection 1 enable

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

25.3.Configuring the loop monitoring controlled function

Command syntax	OLT(config-interface-ge -0/0)# **loopback-detection <port-list> control (enable|disable)**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to enable or disable loop monitoring controlled. For a trunk or hybrid port, when the loopback monitoring controlled function and loopback monitoring function of the port are enabled at the same time, the system performs corresponding operations on the port according to the loopback monitoring action, and reports trap information to the terminal, and the port no longer learns MAC address, the port no longer forwards traffic, the port is not set to be controlled, and only an error is reported when a loop is found. The access port can automatically perform corresponding operations on the port according to the loopback monitoring action without setting the port to be controlled.
port-list	List of ports to be configured, the format is 1, 6-7, 8.

【Configuration case】

Case 1: Enable the loop monitoring controlled function of the GE1 port .

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

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

25.4.Configuring Port Loop Monitoring Controlled Status

Command syntax	OLT(config-interface-ge-0/0)# **loopback-detection <post-list> control enable { block|no-learning|shutdown }**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to configure the loop detection controlled state of the specified port .
port-list	List of ports to be configured, the format is 1, 6-7, 8.
block	Block the port if there is a loopback
no-learning	don't learn mac if loopback exists
shutdown	If there is a loopback, close the port

【Configuration case】

Case 1: Configure the loop detection controlled state of port G1 to block .

```
OLT(config-interface-xge-0/0)# loopback-detection 1 control enable block
```

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

25.5.Configure loop monitoring all VLAN switches

Command syntax	OLT(config-interface-ge -0/0)# **loopback-detection <port-list> per-vlan {enable|disable}**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to enable monitoring of all VLANs on trunk and hybrid ports, but is invalid for access ports. When this function is disabled, the system only monitors the default vlan of the port.
port-list	List of ports to be configured, the format is 1, 6-7, 8. The range of GE interfaces is 1-8; the range of XGE interfaces is 1-4.

【Configuration case】

Case 1: Enable the loop control monitoring function of the GE1 port .

```
OLT(config-interface-ge-0/0)# loopback-detection 1 per-vlan enable

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

25.6.Configuring the Loop Detection Interval of the OLT System

Command syntax	OLT(config)# **loopback-detection interval-time <time>** OLT(config)# **no loopback-detection interval-time**
Applicable view	config view
Function Description	loopback-detection interval-time command is used to configure the loopback detection interval of the OLT system . no loopback-detection interval-time command is used to restore the loop detection interval of the OLT system to the default value . By default, the loop detection interval is 30s.
time	Loop detection interval, the value range is 5-300, the unit is seconds

【Configuration case】

Case 1: Configure the loop detection interval of the OLT system to be 10s .

```
OLT(config)# loopback-detection interval-time 10

OLT(config)#
```

25.7.Configuring the Port Loop Detection Automatic Recovery Function

Command syntax	OLT(config-interface-ge-0/0)# **loopback-detection <port-list> auto-recovery {enable|disable}**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to enable or disable the loop detection automatic recovery function of the specified port .
port-list	List of ports to be configured, the format is 1, 6-7, 8.

【Configuration case】

Case 1: Enable the automatic recovery function of loop detection on port G1 .

```
OLT(config-interface-ge-0/0)# loopback-detection 1 auto-recovery enable

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

25.8.Configuring the Port Loop Detection Automatic Recovery Interval

Command syntax	OLT(config-interface-ge-0/0)# **loopback-detection <port-list> auto-recovery time (TIME |default)**
Applicable view	XGE interface view or GE interface view or gpon interface view
Function Description	This command is used to configure the loop detection automatic recovery interval of the specified port .
port-list	List of ports to be configured, the format is 1, 6-7, 8. The range of GE interfaces is 1-8; the range of XGE interfaces is 1-4.
TIME	Loop detection auto-recovery interval, in seconds
default	The default value of the automatic recovery interval, which is 120 seconds

【Configuration case】

Case 1: Configure the loop detection automatic recovery interval of port G1 to the default value .

```
OLT(config-interface-ge-0/0)# loopback-detection 1 auto-recovery time default

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

25.9.Check the loop detection status of the OLT system

Command syntax	OLT(config)# **show loopback-detection**
Applicable view	config view
Function Description	This command is used to view the loop detection status of the OLT system .

【Configuration case】

Case 1: Check the loop detection status of the OLT system .

```
OLT(config)# show loopback-detection
---------------------------------------------- ----------------------------------------
System loopback-detection is running
Detection interval time is 30 seconds

Port Enable Per-vlan Control auto-recovery(time) Loopback-status Link-status
ge0/0/1 en dis en/block en (120s) detected protocol-down
ge0/0/2 dis dis en/block en (120s) undetected down
ge0/0/3 dis dis en/block en (120s) undetected down
ge0/0/4 dis dis en/block en (120s) undetected up
xge0/0/1 dis dis en/block en (120s) undetected down
xge0/0/2 dis dis en/block en (120s) undetected down
pon0/0/1 dis dis - - undetected down
pon0/0/2 dis dis - - undetected down
pon0/0/3 dis dis - - undetected down
pon0/0/4 dis dis - - undetected down
---------------------------------------------- ----------------------------------------
```

26.OLT Link Aggregation Configuration Management

26.1.Addition and Deletion of Aggregate Group Members

Command syntax	OLT(config-interface-aggregation)# **member {add|delete} {ge|xge} 0/0 <port-list> link-aggregation group <group-id>**
Applicable view	link-aggregation view
Function Description	The device supports a total of 16 aggregation groups. member add adds member ports under the aggregation group, and member delete deletes the member ports under the corresponding aggregation group.

<port-list>	The port number
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: Add uplink ports ge1 and ge2 to aggregation group 1

```
OLT(config-interface-aggregation)# member add ge 0/0 1,2 link-aggregation group 1

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

Case 2: Delete uplink ports ge1 and ge2 from aggregation group 1

```
OLT(config-interface-aggregation)# member delete ge 0/0 1,2 link-aggregation group 1

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

26.2.Enable or disable the aggregation group flow control function

Command syntax	OLT(config-interface-aggregation)# **flow-control <group-id> {enable|disable}**
Applicable view	link-aggregation view
Function Description	This command is used to enable or disable the aggregation group flow control function.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: Enable the flow control function of aggregated port group 1

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

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

26.3.Set Link Aggregation Priority

26.3.1.Setting Link Aggregation System Priority

Command syntax	OLT(config-interface-aggregation)# **lacp set system priority <priority value>**
Applicable view	link-aggregation view

Function Description	This command is used to set the priority of the system
<priority value>	The parameter of the priority, the range is <0-65535>/default

【Configuration case】

Case 1: Configure the system priority of OLT as 3000

```
OLT(config-interface-aggregation)# lacp set system priority 3000

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

26.3.2.Restoring Link Aggregation Priority

Command syntax	OLT(config-interface-aggregation)# **lacp set system priority default**
Applicable view	linterface link-aggregation view
Function Description	Configure the LACP system priority as the default value, the default value is 32768

【Configuration case】

Case 1:

```
OLT( config-interface-aggregation )# lacp set system priority default

OLT( config-interface-aggregation )# show lacp system priority
  lacp system priority value: 32768
```

26.3.3.Setting Link Aggregation Port Priority

Command syntax	OLT(config-interface-aggregation)# **link-aggregation port-priority {ge|xge} F/S/P <priority value> {lacp | manual}**
Applicable view	link-aggregation view
Function Description	This command is used to set the priority of the port
F/S/P	List of ports to configure
<priority value>	The parameter of the priority, the range is <0-65535>

【Configuration case】

Case 1: Configure the priority of the uplink port GE 2 to 6000

```
OLT(config-interface-aggregation)# link-aggregation port-priority ge 0/0/2 6000 manual
```

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

26.3.4.View Link Aggregation System Priority

Command syntax	OLT(config-interface-aggregation)# **show lacp system priority**
Applicable view	link-aggregation view
Function Description	This command is used to view the system priority

【Configuration case】

Case 1: View OLT System Priority

```
OLT(config-interface-aggregation)# show lacp system priority
lacp system priority value: 3000

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

26.3.5.View the port priority in the link aggregation aggregation group

Command syntax	OLT(config-interface-aggregation)# **show link-aggregation port-priority {ge|xge} 0/0 / <port-list> {lacp|manual}**
Applicable view	link-aggregation view
Function Description	This command is used to set the priority of the port
<port-list>	List of ports to view

【Configuration case】

Case 1: Check the system priority of uplink port 1 when the mode is lacp

```
OLT(config-interface-aggregation)# show link-aggregation port-priority ge 0/0/1 lacp
lacp port priority: 32768

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

26.4.Set Link Aggregation Timeout Value

26.4.1.Configuring the Link Aggregation System Timeout Value

Command syntax	OLT(config-interface-aggregation)# **lacp set system timeout < timer >**
Applicable view	interface link-aggregation 0/0 view
Function Description	Set LACP system timeout value
< timer >	Timeout, the range is 0-1, 0 means short, 1 means long

【Configuration case】

Case 1: Configure the lacp system timeout value to 1

```
OLT( config-interface-aggregation )# lacp set system timeout 1

OLT( config-interface-aggregation )# show lacp system timeout
  l acp system timeout value: 1
```

26.4.2.Restore Link Aggregation System Timeout Value

Command syntax	OLT(config-interface-aggregation)# **lacp set system timeout default**
Applicable view	interface link-aggregation view
Function Description	Configure the LACP system timeout value as the default value, the default value is 0

【Configuration case】

Case 1:

```
OLT( config-interface-aggregation )# lacp set system timeout default

OLT( config-interface-aggregation )# show lacp system timeout
  lacp system timeout value: 0
```

26.4.3.Querying the Link Aggregation System Timeout Value

Command syntax	OLT(config-interface-aggregation)# **show lacp system timeout**
Applicable view	linterface link-aggregation view
Function Description	Query the timeout value of the LACP system

【Configuration case】

Case 1:

```
OLT( config-interface-aggregation )# show lacp system timeout
 lacp system timeout value: 0
```

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

26.5.Set the maximum frame length for link aggregation aggregation group transmission

Command syntax	OLT(config-interface-aggregation)# **frame-max <group-id> <frame-max value>**
Applicable view	link-aggregation view
Function Description	This command is used to set the maximum frame length of aggregation group transmission
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<frame-max value>	The value of the maximum transmission frame length, the value range is 328-12288

【Configuration case】

Case 1: Configure the maximum transmission frame length of aggregate port group 1 to be 2000

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

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

26.6.Set the link aggregation aggregation group load balancing mode

26.6.1.Set the sharing mode of the known unicast data of the link aggregation aggregation group

Command syntax	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 }**
Applicable view	link-aggregation view
Function Description	This command is used to set the sharing mode of known unicast data in the aggregation group
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

balance	dest-ip|| Unicast load sharing by destination ip dest-mac|| load balancing by destination mac source-dest-ip|| load balancing by source ip or destination ip source-dest-mac || Load sharing by source mac or destination mac source-ip|| load balancing by source ip source-mac|| load sharing by source mac (system default mode)

【Configuration case】

Case 1: The known unicast sharing mode of aggregation group 1 is configured to share the load according to the destination IP.

```
OLT(config-interface-aggregation)# link-aggregation group 1 unicast balance dest-ip

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

26.6.2.Setting the sharing mode of non-unicast data in a link aggregation aggregation group

Command syntax	OLT(config-interface-aggregation) **#link-aggregation group non-unicast balance {dest-mac| source-dest-mac | source-mac|source-port }**
Applicable view	link-aggregation view
Function Description	This command is used to set the sharing mode of non-unicast and unicast in the aggregation group
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
balance	dest-mac|| load balancing by destination mac source-dest-mac || Load sharing by source mac or destination mac source-mac|| load sharing by source mac (system default mode) source-port|| Share by source port number

【Configuration case】

Case 1: Configure the non-unicast data sharing mode of aggregation group 1 to share according to the source port number.

```
OLT(config-interface-aggregation)# link-aggregation group non-unicast balance source-port
OLT(config-interface-aggregation)#
```

26.7.Set the name of the link aggregation aggregation group

Command syntax	OLT(config-interface-aggregation)# **port-name <group-id> <port name>**
Applicable view	link-aggregation view
Function Description	Set the name of the aggregation group
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<port name>	The name of the aggregation group, length < 1~16>

【Configuration case】

Case 1: Set the name of aggregation group 1 to test

```
OLT(config-interface-aggregation)# port-name 1 test

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

26.8.Clear Link Aggregation Aggregation Group Statistics

Command syntax	OLT(config-interface-aggregation) # **reset statistics port <group-id>**
Applicable view	link-aggregation view
Function Description	This command is used to clear the statistics of the aggregation group
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: Clear the statistics of aggregation group 1

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

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

26.9.Enable or disable link aggregation aggregation group

Command syntax	OLT(config-interface-aggregation)# **[no] shutdown <group-id>**
Applicable view	link-aggregation view
Function Description	Open or close the aggregation group, the default is open

<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: Turn off aggregation group 1

```
OLT(config-interface-aggregation)# shutdown 1

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

Case 2: Open aggregation group 1

```
OLT(config-interface-aggregation)# no shutdown 1

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

26.10.Link Aggregation Aggregation Group Rapid Spanning Tree Configuration

26.10.1.Configuring Fast Spanning Tree Costs for Link Aggregation Aggregation Groups

Command syntax	OLT(config-interface-aggregation))# **spanning-tree cost <group-id> <cost>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the spanning tree cost of the OLT aggregation group. When there are multiple links between two devices and none of them are root ports, the best path is determined according to the port cost.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<cost>	Overhead value, the value range is 1-200000000

【Configuration case】

Case 1: The cost of configuring the rapid spanning tree of aggregation group 1 of the OLT is 2000.

```
OLT(config-interface-aggregation))# spanning-tree cost 1 2000

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

26.10.2.Configuring the Edge Port of Rapid Spanning Tree in a Link

Aggregation Aggregation Group

Command syntax	OLT(config-interface-aggregation))# **spanning-tree edged-port <group-id> enable|disable**
Applicable view	link-aggregation view
Function Description	This command is used to configure the edge port of the spanning tree of the OLT aggregation group. If the user designates a port as an edge port, when the port transitions from the blocking state to the forwarding state, the port can be quickly migrated without waiting for the delay time. The user can only set the port connected to the terminal as an edge port. Default is non-edge port.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
enable|disable	enable: Set the port as an edge port. disable: Set the port as a non-edge port.

【Configuration case】

Case 1: Configure the edge port of OLT aggregation group 1.

```
OLT(config-interface-aggregation))# spanning-tree edged-port 1 enable

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

26.10.3.Configuring the point-to-point link connection function of fast spanning tree in a link aggregation aggregation group

Command syntax	OLT(config-interface-aggregation))# **spanning-tree point-to-point <group-id> {auto|true|false}**
Applicable view	link-aggregation view
Function Description	This command is used to configure the point-to-point link connection function of the spanning tree of the OLT aggregation group. If the bridge works in RSTP mode, the two ports connected by the point-to-point link can quickly transition to the Forwarding state by transmitting synchronization packets, reducing unnecessary forwarding delay time. If this parameter is set to automatic mode, the RSTP protocol can Automatically detect whether the current Ethernet port is connected with a point-to-point link. The user can manually configure whether the current Ethernet port is connected to the point-to-point link, but it is recommended that the user set it to

	automatic mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
auto|true|false	auto: configure the point-to-point link connection to automatic mode true: Configure the GE port to be connected to a point-to-point link false: The configured GE port cannot be connected by a point-to-point link

【Configuration case】

Case 1: Configure the point-to-point link connection function of OLT aggregation group 1 to true.

```
OLT(config-interface-aggregation))# spanning-tree point-to-point 1 true

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

26.10.4.Configuring the Priority of Rapid Spanning Tree in a Link Aggregation Aggregation Group

Command syntax	OLT(config-interface-aggregation))# **spanning-tree priority <group-id> <port-priority>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the spanning tree priority of the OLT aggregation group. By setting the priority of the Ethernet port, a specific Ethernet port can be specified to be included in the spanning tree. In general, the smaller the set value, the higher the priority of the port, and the more likely the Ethernet port is included in the spanning tree. within the spanning tree. If all the Ethernet ports of the bridge use the same priority parameter value, the priority of the Ethernet port depends on the index number of the Ethernet port.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<port-priority>	Port priority, the value range is 0-240, and the step size is 16. The default value is 128.

【Configuration case】

Case 1: Set the spanning tree priority of OLT aggregation group 1 to 160.

```
OLT(config-interface-aggregation))# spanning-tree priority 1 160

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

26.11.Link Aggregation Aggregation Group VLAN Configuration

26.11.1.Configuring Link Aggregation Aggregation Group VLAN Mode

Command syntax	OLT(config-interface-aggregation)# **vlan mode <group-id> access|hybrid|trunk**
Applicable view	link-aggregation view
Function Description	This command is used to configure the VLAN mode of the OLT aggregation group. The default is Access mode. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
access|hybrid|trunk	Access: Access type ports can only belong to one VLAN, and are generally used to connect to computer ports; Trunk : Trunk type ports can allow multiple VLANs to pass through, and can receive and send packets of multiple VLANs. They are generally used for ports connected between switches; Hybrid : Hybrid type ports can allow multiple VLANs to pass through, can receive and send packets of multiple VLANs, can be used to connect between switches, and can also be used to connect users' computers.

【Configuration case】

Case 1: Configure the VLAN mode of OLT aggregation group 1 as Access mode.

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

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

26.11.2.Configuring the Native VLAN of the Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **vlan native-vlan <group-id> <vlan-ID>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the native VLAN of the GE aggregation group of the OLT. The default value is 1. See Appendix 1

	for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<vlan-ID>	VLAN ID, the value range is 1-4094.

【Configuration case】

Case 1: Configure the native VLAN of aggregation group 1 of the OLT to be 10.

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

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

26.11.3.Configuring the Priority of the Native VLAN of the Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **vlan native-vlan-priority <group-id> <priority>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the priority of the native VLAN of the GE aggregation group of the OLT, which is 0 by default.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<priority>	Priority, the value range is 0-7.

【Configuration case】

Case 1: Configure the priority of the native VLAN of aggregation group 1 to be 1.

```
OLT(config-interface-aggregation)# vlan native-vlan-priority 1 1

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

26.11.4.Configuring the Access VLAN of the Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **vlan access <group-id> <vlan-id>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the Access VLAN of the aggregation group of the OLT. The default Access VLAN is 1. See Appendix 1 for details on how the port handles packets in each Vlan

	mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<vlan-id>	Access VLAN ID, ranging from 1 to 4094

【Configuration case】

Case 1: Set the access VLAN of aggregation group 1 to 100.

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

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

26.11.5.Configuring the Hybrid VLAN of the Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **vlan hybrid <group-id> {tagged|untagged} <vlan-list>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the hybrid VLAN of the aggregation group of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
Tagged|untagged	tagged: Packets outgoing from the port with the corresponding vlan tag untagged: strip the vlan tag from the packets outgoing from the port
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Add a hybrid VLAN of 10-15 untagged to 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)#
```

Case 2: Add a hybrid VLAN tag of 101 to aggregation group 1.

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

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

26.11.6.Deleting the Hybrid VLAN of a Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **no v lan hybrid <group-id> {tagged|untagged} <vlan-list>**
Applicable view	link-aggregation view
Function Description	This command is used to delete the hybrid VLAN of the aggregation group of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
Tagged|untagged	tagged: Packets outgoing from the port with the corresponding vlan tag untagged: strip the vlan tag from the packets outgoing from the port
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: The aggregation group 1 of the OLT deletes the hybrid VLAN tag as 10-15.

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

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

26.11.7.Configuring the Trunk VLAN of the Link Aggregation Group

Command syntax	OLT(config-interface-aggregation)# **vlan trunk <group-id> <vlan-list>**
Applicable view	link-aggregation view
Function Description	This command is used to configure the trunk VLAN of the aggregation group of the OLT. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Add trunk VLANs 10-15 to aggregation group 1.

```
OLT(config-interface-aggregation)# vlan trunk 1 10-15
lag1 : trunk vlan allowed , failed: 0, success: 6
```

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

26.11.8.Deleting the trunk VLAN of a link aggregation group

Command syntax	OLT(config-interface-aggregation)# **no vlan trunk <group-id> <vlan-list>**
Applicable view	link-aggregation view
Function Description	This command is used to delete the trunk VLAN of the OLT aggregation group. See Appendix 1 for details on how the port handles packets in each Vlan mode.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups
<vlan-list>	VLAN ID, ranging from 1 to 4094. The format can be 1, 11-27, 100

【Configuration case】

Case 1: Delete trunk VLAN 10 in aggregation group 1

```
OLT(config-interface-aggregation)# no vlan trunk 1 10

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

26.12.View Link Aggregation Aggregation Group Information

26.12.1.View the VLAN information of the link aggregation aggregation group port

Command syntax	OLT(config-interface-aggregation)# **show port vlan <group-id>**
Applicable view	link-aggregation view
Function Description	This command is used to view the vlan information of the aggregation group port
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: View the vlan information of 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)#
```

26.12.2.Viewing the Status Information of Link Aggregation Group Ports

Command syntax	OLT(config-interface-aggregation)# **show port state <group-id>**
Applicable view	link-aggregation view
Function Description	This command is used to view the status information of the aggregation group port.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups, all refers to all aggregation groups

【Configuration case】

Case 1: Viewing the status information of aggregation group 1

```
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)#
```

26.12.3.Viewing Link Aggregation Aggregation Group Statistics

Command syntax	OLT(config-interface-aggregation)# **show statistics port <group-id>**
Applicable view	link-aggregation view
Function Description	This command is used to view aggregation group statistics information
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups

【Configuration case】

Case 1: View the statistics of aggregation group 1.

```
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)#
```

26.12.4.Checking Link Aggregation Group Port Matching Status

Command syntax	OLT(config-interface-aggregation)# **show link-aggregation group <group-id>**
Applicable view	link-aggregation view
Function	This command is used to check the port matching status of the

Description	aggregation group.
<group-id>	Aggregation group ID, 1-8 are manual aggregation groups, 9-16 are static LACP aggregation groups, summary refers to all aggregation groups

【Configuration case】

Case 1: Check the matching status of the aggregation group 1 port

```
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)#
```

27.OLT system template configuration

27.1.DBA template configuration

27.1.1.Create and delete DBA templates

Command syntax	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>**
Applicable view	config view
Function Description	This command is used to add a DBA (Dynamic Bandwidth Assignment) template and enter the DBA template configuration mode. The conflict and control of the upstream bandwidth of the ONT are implemented through the DBA (Dynamic Bandwidth Allocation) technology. The DBA template defines the upstream access bandwidth of the ONT. The device dynamically adjusts the upstream access bandwidth allocated to the ONT according to the upstream burst traffic demand of the ONT, which improves the utilization efficiency of the upstream bandwidth of the PON system. Use this command when the default DBA template of the system cannot meet the business requirements and a new DBA template needs to be added according to the actual business requirements. Use the no command to delete the dba template.
<profile-id>	DBA template number, the value range is 0-128 . If not specified, the system automatically assigns the smallest free template number.

	Template 0 is the default template of the system, and an ONT that is automatically online automatically matches template 0.
<profile-name>	DBA template name, the length supports 1-16 characters. If not specified, the system automatically uses the default name "dba-profile_x", where "x" is the number of the DBA profile.

【Configuration case】

Case 1: Create a new dba template with an id of 10, the template name is named by default, and enter the DBA template configuration mode.

```
OLT(config)# dba-profile profile-id 10

OLT(config-dba-profile-10)#
```

Case 2: Delete the dba template with id 10

```
OLT(config)# no dba-profile profile-id 10

OLT(config)#
```

27.1.2.DBA template configuration

Command syntax	OLT(config-dba-profile-10)# **type1 fix <fixed bandwidth_value>** OLT(config-dba-profile-10)# **type2 assure <assure bandwidth_value>** OLT(config-dba-profile-10)# **type3 assure <assure bandwidth_value> max <max bandwidth_value>** OLT(config-dba-profile-10)# **type4 max <max bandwidth_value>** OLT(config-dba-profile-10)# **type5 fix<fixed bandwidth_value> assure <assure bandwidth_value> max <max bandwidth_value>**
Applicable view	DBA Template Configuration View
Function Description	This command is used to configure the type and size of the DBA control bandwidth.
<type1>	Configure a DBA template with fixed bandwidth. The fixed bandwidth is completely reserved for a specific ONT or a specific service of the ONT. Even if the ONT has no upstream service flow, this part of the bandwidth cannot be used by other ONTs. Fixed bandwidth is mainly used for services that are very sensitive to service quality, such as TDM and VoIP.
<type2>	Configure a DBA template whose type is guaranteed bandwidth. Guaranteed bandwidth is the guaranteed bandwidth available when the ONT needs to use the bandwidth. When the actual service traffic of the ONT does not reach the guaranteed bandwidth, the DBA mechanism of the device should be able to allocate the remaining

	bandwidth to the services of other ONTs. Due to the need for DBA mechanism to control the allocation, its real-time performance is worse than fixed bandwidth.
<type3>	Configure a DBA profile with guaranteed bandwidth + maximum bandwidth. The type3 type is a bandwidth combination type. While ensuring that users have a certain amount of bandwidth, they also allow users to preempt certain bandwidths, but the total amount will not exceed the maximum bandwidth configured by the user. This bandwidth type is mainly used for VoIP and IPTV services.
<type4>	Configure a DBA profile with the maximum bandwidth type. The maximum bandwidth is the upper limit of the bandwidth available when the ONT uses the bandwidth, which satisfies the bandwidth resources used by the ONT to the greatest extent. The maximum bandwidth type is often used for services such as ordinary Internet access.
<type5>	Configure a DBA profile with fixed bandwidth + guaranteed bandwidth + maximum bandwidth. Type 5 is a bandwidth combination type, which not only reserves fixed bandwidth resources that cannot be preempted by other users, but also ensures guaranteed bandwidth when bandwidth is needed, and allows users to preempt a certain bandwidth, but the total amount will not exceed the user Configured maximum bandwidth.
<fix>	Fixed bandwidth. This part of the bandwidth is fixed to the user, and even if the user does not use it, other users cannot occupy it.
<assure>	Report bandwidth. This part of the bandwidth is allocated to the user. If the user does not use it, other users can occupy this part of the bandwidth.
<max>	maximum bandwidth. This bandwidth refers to the maximum bandwidth that a user can use. In a type3 DBA template, the maximum bandwidth must be greater than or equal to the guaranteed bandwidth. In a DBA profile of type 5, the maximum bandwidth must be greater than or equal to the sum of the fixed bandwidth and the guaranteed bandwidth.

【Configuration case】

Case 1: Set the dba profile of dba profile 10 to type5, the fixed bandwidth to 5Mbit/s, the guaranteed bandwidth to 10Mbit/s, and the maximum bandwidth to 30Mbit/s

```
OLT(config-dba-profile-10)# type5 fix 5120 assure 10240 max 30720

OLT(config-dba-profile-10)#
```

27.1.3.View the current dba template configuration

Command syntax	OLT(config-dba-profile-10)# **show dba-profile current**
Applicable view	DBA Template Configuration View
Function Description	This command views the detailed configuration information of the currently configured dba template

【Configuration case】

Case 1: View the details of the dba template with id 10 currently being created

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

27.1.4.Submit the current dba template configuration

Command syntax	OLT(config-dba-profile-10)# **commit**
Applicable view	DBA Template Configuration View
Function Description	This command is used to submit the current dba template configuration. Only after this command is successfully submitted, all parameter configurations of the dba template will take effect.

【Configuration case】

Case 1: Submit the current dba template configuration

```
OLT( config-dba-profile-10) # commit

OLT(config-dba-profile-10)#
```

27.1.5.Querying DBA Template Information

Command syntax	OLT(config)# **show dba-profile all |profile-id <profile-id> | profile-name <profile-name>**
Applicable view	config view
Function Description	This command is used to query the DBA (Dynamic Bandwidth Assignment) template information in the system. The DBA profile describes the traffic parameters of the line, and the ONT performs dynamic bandwidth allocation by binding the DBA profile to improve the upstream bandwidth utilization.
all	View all dba templates in OLT
profile-id <profile-id>	View the dba template information of the specified id in the OLT
profile-name <profile-name>	View the dba template information of the specified name in the OLT

【Configuration case】

Case 1: View all DBA templates under OLT

```
OLT(config)# show dba-profile all
------------------------------------------------ ----------------------------------------
Profile Profile Type Fix Assure Max Bind
ID Name (kbps) (kbps) (kbps) times
------------------------------------------------ ----------------------------------------
0 dba-profile_0 4 0 0 1000000 1
1 dba-profile_1 4 0 0 1000000 0
2 dba-profile_2 4 0 0 1000000 0
10 dba-profile_10 5 5120 10240 30720 0
------------------------------------------------ ----------------------------------------
Total: 4

OLT(config)#
```

27.2.ONT line profile configuration

27.2.1.Create a new ONT line profile

Command syntax	OLT(config)# **ont-lineprofile gpon profile-id <profile-id > |profile-name <profile-name>**
Applicable view	config view

Function Description	This command is used to create and enter the ONT line profile mode or enter the created ONT line profile mode. The ONT line profile describes the binding relationship between T-CONT and DBA profiles, the QoS mode of service flows, and the mapping relationship between GEM Port and ONT side services. It is mainly used to configure DBA, T-CONT, and GEM Port related information. ONT lines Related attributes are configured in the line template. For the same ONT, you only need to configure it once, saving configuration workload. After the command is successfully executed, the corresponding ONT line profile configuration mode is entered, and the related attributes of the ONT line profile can be set.
<profile-id>	ONT line profile number, used to identify a line profile, ranges from 0 to 512 . If it is not specified, the system automatically assigns the smallest idle template number. Line template 0 is the default template of the system, and an ONT that goes online automatically matches line template 0.
<profile-name>	ONT line template name, the name length supports 1-16 characters. The default template name is lineprofile_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter an ONT line template of 10 .

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

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

27.2.2.tcont creation and deletion in line template and DBA template binding

Command syntax	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**
Applicable view	Line Template View
Function Description	This command uses the tcont in the line profile to bind DBA bandwidth to allocate DBA bandwidth to ONT services bound to the line profile. If you need to delete tcont, you can add no in front.
<tcont-id>	Specify the created tcont id, the value range is 0-7
<profile-id>	Specifies the id of the dba template that tcont needs to be bound to. The dba template needs to be created in advance. The value range is

	0-128 .
<profile-name>	Specify the name of the dba template to which tcont needs to be bound. The dba template needs to be created in advance

【Configuration case】

Case 1: In line template 10, create tcont id 1 and bind DBA template 10

```
OLT(config-ont-lineprofile-10)# tcont 1 dba-profile-id 10

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

Case 2: In line template 10, delete tcont id 1

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

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

27.2.3.GEM Mapping mapping mode configuration in the line template

Command syntax	OLT(config-ont-lineprofile-10)# **mapping-mode { priority | vlan | vlan-priority |port }**
Applicable view	Line Template View
Function Description	This command is used to create a GEM Mapping mapping mode and the subsequent GEM Mapping creation is related. If the mapping mode is vlan, the subsequent GEM Mapping should also be mapped to vlan.
priority	Specify the mapping mode as the vlan priority. If this mode is selected, the subsequent GEM Mapping will also be mapped to the vlan priority.
vlan	Specify the mapping mode as vlan. If this mode is selected, the subsequent GEM Mapping should also be mapped to vlan. The default is to change the mode, and you can not modify it unless there are special circumstances.
vlan-priority	Specify the mapping mode as vlan+vlan priority. If this mode is selected, the subsequent GEM Mapping should also be mapped to vlan+vlan priority
port	Specify the mapping mode as port . If this mode is selected, the GEM Mapping will also be mapped to the port .

【Configuration case】

Case 1: In line template 10, configure the mapping mode of GEM Mapping to vlan

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

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

27.2.4.GEM Port Creation and Deletion in Line Template

Command syntax	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>**
Applicable view	Line Template View
Function 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 created GEM Port id, ranging from 1 to 30
<tcont-id>	Specifies the tcont id to which the GEM Port needs to be bound, ranging from 1 to 7
encrypt <switch>	Configuring Downlink Data Encryption on the GEM Port of the ONT On : Enable downlink data encryption of the GEM Port of the ONT Off : Disable downlink data encryption of the GEM Port of the ONT
gem-car <profile-id>	To configure the downlink rate limit (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 .

【Configuration case】

Case 1: In line template 10, create GEM Port id 1 and bind tcont id1

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

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

Case 2: In line template 10, delete GEM Port id 1

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

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

27.2.5.GEM Mapping creation and deletion in line template

Command	OLT(config-ont-lineprofile-10)# **gem mapping <gem-id>**

syntax	**<mapping-in d ex > { vlan <vlan-id> | priority < 802.1p > | eth <eth-list> }** OLT(config-ont-lineprofile-10)# **no gem mapping <gem-id> <mapping-id>**
Applicable view	Line Template View
Function Description	This command is used to create a GEM Mapping and bind the GEM Mapping and GEM Port together. The GEM Mapping is mapped (bound) to the vlan from the user side, so that the vlan of the user side knows which ONU and PON port to send vlan data from. 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 GEM Mapping, ranging from 1 to 30
<Mapping-id>	Specifies the created GEM Mapping id, ranging from 1 to 8
vlan <vlan-id>	Specifies the user-side vlan id to be mapped by GEM Mapping Value range 1-4094 or untagged
priority < 802.1p >	Specifies the priority of the vlan from the user side that needs to be mapped by GEM Mapping, the value range is 0-7
eth <eth-list>	Specifies the port of the ONT to be mapped by GEM Mapping, ranging from 1 to 8

【Configuration case】

Case 1: In line template 10, create GEM Mapping id7 to bind GEM Port 1 and map vlan 100

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

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

Case 2: In line template 10, delete GEM Mapping id7

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

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

27.2.6.Line Template Configuration Forward Error Correction (FEC)

Command syntax	OLT(c onfig-ont-lineprofile-10)# **fec-upstream <switch>**

Applicable view	Line Template View
Function Description	This command is used to enable or disable Forward Error Correction (FEC) upstream of the ONT.
<switch>	enable: enable forward error correction disable: disable forward error correction

【Configuration case】

Case 1: In line profile 10, enable the upstream forward error correction (FEC) function of the ONT

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

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

27.2.7.Line Template Configuration Data Encryption

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

【Configuration case】

Case 1: In line template 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)#
```

27.2.8.Binding a Line Template to a Traffic Template

Command syntax	OLT(config-ont-lineprofile-10)# **gem add <gem-id> tcont <tcont-id> gem-car <profile-id>**
Applicable view	Line Template View

Function Description	This command is used to bind a traffic profile when creating a gem port, and is used together with the traffic-profile command in global mode.
<gem-id>	Specify the gem port id to bind the traffic template, the value range is 1-30
<tcont-id>	Specify the tcont id to bind the traffic template, the value range is 1-7
<profile-id>	Flow template number. Use the traffic-profile command to create a traffic profile in global mode. For details, please refer to Creating a Traffic Template. The value ranges from 1 to 256 .

【Configuration case】

Case 1: In line profile 10, bind traffic profile 10.

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

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

27.2.9.Line Template Configuration QOS Mode

Command syntax	OLT(config-ont-lineprofile-10)# **qos-mode { flow-car | gem-car | priority-queue }**
Applicable view	Line Template View
Function Description	This command is used to configure QoS mode in GPON ONT line profile. This command is used when it is necessary to provide users with end-to-end quality assurance and to control the traffic of ONT-side services mapped to the GEM Port through the gem mapping command. After the configuration of this command takes effect, when you use the gem mapping command to configure the mapping relationship between GEM ports and user services, it must match the mapping mode supported by the ONT configured with this command. By default, the QoS mode of the ONT in the 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. The control granularity is finer than that of the GEM flow control mode. After the service flow control processing is completed, it is scheduled in the queue of the T-CONT. The scheduling method depends on the scheduling configured by the ONT. Way.
gem-car	GEM flow control mode. The ONT performs flow control based on the GEM Port. When there are multiple service flows on the GEM Port,

	how to schedule the service flows depends on the scheduling mode configured on the ONT. When a T-CONT contains multiple GEM Ports, the scheduling mode of data packets between multiple GEM Ports also depends on the scheduling mode configured on the ONT.
priority-queue	Priority queue scheduling mode. When this mode is selected, the user specifies the sending queue of the GEM Port message in the T-CONT. When the T-CONT sends the uplink data, it is sent according to the strict queue priority.

【Configuration case】

Case 1: In line template 10, configure the QoS mode as priority-queue

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

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

27.2.10.Configuring OMCC Encryption for ONTs in Line Templates

Command syntax	OLT(config-ont-lineprofile-10)# **omcc encrypt <switch>**
Applicable view	Line Template View
Function Description	This command is used to configure ONT OMCC (Ont Management and Control Channel) encryption switch state. 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 and management channel, use this command to set.
<switch>	on: Enable OMCC encryption of the ONT off: Disable OMCC encryption of the ONT Default: off

【Configuration case】

Case 1: In line profile 10, enable ONT OMCC encryption

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

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

27.2.11.View the current line template configuration

Command syntax	OLT(config-ont-lineprofile-10)# **show ont-lineprofile current**

Applicable view	Line Template Configuration View
Function Description	This command checks the detailed configuration information of the currently configured line template

【Configuration case】

Case 1: View the details of the line template with id 10 currently being created

```
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)#
```

27.2.12.Submit the current line template configuration

Command syntax	OLT(config-ont-lineprofile-10)# **commit**
Applicable view	Line Template Configuration View
Function Description	This command is used to submit the current line template configuration. Only after this command is successfully submitted, all parameter configurations of the line template will take effect.

【Configuration case】

Case 1: Submit the current line template configuration

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

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

27.2.13.Querying the ONT Line Profile Information on the OLT

Command syntax	OLT(config)# **show ont-lineprofile gpon {all | profile-id <profile-id > | profile-name <profile-name> }**

Applicable view	config view
Function Description	This command is used to query the line template information that has been created in the system.
all	View all line template information on the OLT
profile-id <profile-id	View the line template information of the specified id.
profile-name <profile-name>	View the line template information of the specified name.

【Configuration case】

Case 1: View information about the ONT line profile with ID 10.

```
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)#
```

27.3.ONT service template configuration

27.3.1.Create a new ONT service template

Command syntax	OLT(config)# **ont-srvprofile gpon {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	The ont-srvprofile gpon command is used 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 ONTs that process the same

	service, only one configuration is required, saving configuration workload. When adding an ONT, you need to bind the GPON ONT service profile. If you do not specify this, the system will automatically bind the ONT to the default service profile 0. After the command is successfully executed, the corresponding GPON ONT service profile configuration mode is entered, and the relevant properties of the GPON ONT service profile can be set.
<profile-id>	The ONT service profile number, used to identify a service profile, ranges from 1 to 512. If not specified, the system automatically assigns the smallest idle template number. Service template 0 is the default template of the system, and an ONT that goes online automatically matches service template 0.
<profile-name>	The name of the ONT service template, which can be 1-16 characters long. The default template name is srvprofile_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT business template with ID 10 .

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

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

27.3.2.Configuring the capability set in the ONT service profile

Command syntax	OLT(config-ont-srvprofile-10)# **ont-port { eth <Number > | catv <Number> | pots <Number > |iphost <Number >}**
Applicable view	Business Template View
Function Description	This command is used to set the port capability set in the ONT service profile, that is, to set the number of ports of each type 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 capability sets of the eth port on the ONT, ranging from 0 to 8 or adaptive. After the configuration is adaptive, it will be automatically matched according to the number of eth ports reported by the ONT.
catv <Number>	Configure the number of capability sets of the catv interface on the ONT, ranging from 0 to 8 or adaptive. After the configuration is adaptive, it will be automatically matched according to the number of eth ports reported by the ONT.

pots <Number>	Configure the number of capability sets of the eth port on the ONT, ranging from 0 to 8 or adaptive. After the configuration is adaptive, it will be automatically matched according to the number of eth ports reported by the ONT.
iphost <Number>	Configure the number of capability sets of the iphost port on the ONT, ranging from 0 to 2 or adaptive. After the configuration is adaptive, it will be automatically matched according to the number of iphost ports reported by the ONT.

【Configuration case】

Case 1: Set the number of ETH ports in ONT service profile 10 to adaptive and the number of POTS ports to 1

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

27.3.3.Do not pay attention to the default (native-vlan) vlan switch of the ONT configured in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **native-vlan concern | unconcern**
Applicable view	Business Template View
Function Description	This command is used to configure whether the ONT pays attention to the native VLAN in the ONT service profile. If the Native VLAN is concerned, the Untaged packets on the user side will be added to the Native VLAN; if the Native VLAN is not concerned, the Untaged packets on the user side will not be added to the Native VLAN. By default, the ONT pays attention to the native VLAN.
concern	Set the ONT to pay attention to the Native VLAN
unconcern	Set the ONT to not pay attention to the Native VLAN

【Configuration case】

Case 1: Set ONT service profile 10 to focus on Native VLAN

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

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

27.3.4.Configure the port vlan of the ONT in trunk mode in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **port vlan { eth <eth-list> | iphost } <vlan id> | <priority> | priority < priority policy >**
Applicable view	Business Template View
Function Description	This command is used to configure ONT port vlan to trunk mode. A command only supports the configuration of one vlan. If you want to allow multiple vlans, you need to enter the command repeatedly.
eth <eth-list>	Specifies which ports of the ONT need to be configured in vlan trunk mode, the value ranges from 1 to 24, and the port range can be specified.
iphost	Optional, specify that the virtual port of the ONT is configured in vlan trunk mode, and iphost is mainly an HGU-type Layer 3 virtual interface.
<vlan id>	Set the trunk mode of the ONT port to allow the vlan id to pass through, ranging from 1 to 4094
<priority>	Optional, set the priority of the ONT port vlan
priority < priority policy >	Optionally, set the service-side VLAN packet priority policy to copy from user-side VLAN. When the OLT trusts the original priority of the user side or the original priority of the user side conforms to the VLAN planning of the OLT, the priority of the VLAN packets on the service side is directly copied from the VLAN of the user side, and the value is user-cos

【Configuration case】

Case 1: Set the trunk mode vlan of eth1 in ONT service profile 10 to 100.

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

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

27.3.5.Configure the port vlan of the ONT to be in translation mode in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **port vlan {eth <eth-list>|iphost} translation <Svlan-id> user-vlan <Cvlan-id> | <priority>**
Applicable view	Business Template View
Function Description	This command is used to configure the ONT port vlan to 1:1 vlan conversion mode or 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 which ports of the ONT need to be configured in vlan conversion mode, the value is 1-24, and the port range can be specified
iphost	Optional, specify that the virtual port of the ONT is configured in vlan conversion mode, and iphost is mainly an HGU-type Layer 3 virtual interface.
<Svlan-id>	Set the network side Svlan of the ONT port vlan conversion mode, the value is 1-409
<Cvlan-id>	Set the user-side Cvlan of the ONT port vlan conversion mode, ranging from 1 to 409
<priority>	Optional, set the priority of the ONT port vlan

【Configuration case】

Case 1: Set the 1:1 vlan conversion mode of eth1 in ONT service profile 10 to 1001-1003 for Svlan and 101-103 for Cvlan.

```
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)#
```

Case 2: Set the N:1 vlan conversion mode of eth1 in ONT service profile 10 to 1000 for Svlan and 101-103 for Cvlan.

```
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)#
```

27.3.6.Configure the port vlan of the ONT in QinQ mode in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **port vlan {eth <eth-list>|iphost} q-in-q <Svlan-id> { <priority> |priority < priority policy > } user-vlan <Cvlan-id> { <priority> |priority < priority policy > }**

Applicable view	Business Template View
Function Description	This command is used to configure the ONT port vlan to QinQ mode. A command only supports the configuration of one vlan. If you want to configure QinQ of multiple vlans, you need to enter the command repeatedly.
eth <eth-list>	Specifies which ports of the ONT need to be configured in vlan trunk mode, the value ranges from 1 to 24, and the port range can be specified.
iphost	Optional, specify that the virtual port of the ONT is configured in vlan trunk mode, and iphost is mainly an HGU-type Layer 3 virtual interface.
<Svlan-id>	Set the outer Svlan of the ONT port vlan QinQ mode, the value ranges from 1 to 409.
<Cvlan-id>	Set the inner Cvlan of the ONT port in vlanQinQ mode, ranging from 1 to 409
<priority>	Optional, set the priority of the ONT port vlan
priority < priority policy >	Optionally, set the service-side VLAN packet priority policy to copy from user-side VLAN. When the OLT trusts the original priority of the user side or the original priority of the user side conforms to the VLAN planning of the OLT, the priority of the VLAN packets on the service side is copied directly from the VLAN of the user side, and the value is user-cos

【Configuration case】

Case 1: Set the QinQ mode outer vlan of eth1 in ONT service profile 10 to 2000 and inner vlan to 200.

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

27.3.7.Configure the port vlan of the ONT in the transparent transmission mode in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **port vlan {eth <eth-list>|iphost} transparent**
Applicable view	Business Template View
Function	This command is used to configure the ONT port vlan as transparent

Description	transmission mode.
eth <eth-list>	Specifies which ports of the ONT need to be configured in transparent transmission mode. The value ranges from 1 to 24. The port range can be specified.
iphost	Optional, specify that the virtual port of the ONT is configured in vlan transparent transmission mode, and iphost is mainly an HGU-type Layer 3 virtual interface.

【Configuration case】

Case 1: Set eth1 in ONT service profile 10 to transparent transmission mode.

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

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

27.3.8.Delete the port vlan configuration of the ONT from the service template

Command syntax	OLT(config-ont-srvprofile-10)# **no port vlan {eth <eth-list>|iphost} <Cvlan-id>**
Applicable view	Business Template View
Function Description	This command is used for partridge ONT port vlan configuration.
eth <eth-list>	Specifies which port vlan configurations of the ONT to delete, the value is 1-24, and the port range can be specified
iphost	Optional, specify to delete the virtual port vlan configuration of the ONT. iphost is mainly an HGU-type Layer 3 virtual interface.
<Cvlan-id>	Specifies which vlan of the ONT port needs to be deleted, the value range is 1-4094

【Configuration case】

Case 1: Delete the configuration of eth1 vlan 100 in ONT service profile 10.

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

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

27.3.9.Configure the MAC address aging time of the ONT in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **mac-aging <aging-time>**
Applicable view	Business Template View
Function 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, ranging from 10 to 1000000, in seconds. no-aging sets the ONT mac address not to age.

【Configuration case】

Case 1: Set the aging time of the MAC address of the ONT in ONT service profile 10 to no aging.

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

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

27.3.10.Configuring the MAC address learning function of the ONT in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **mac-learning <switch>**
Applicable view	Business Template View
Function Description	This command is used to enable or disable the MAC address learning function of the ONT.
<switch>	enable : Enable the mac address learning function of the ONT disable : Disable the mac address learning function of the ONT

【Configuration case】

Case 1: Enable the MAC address learning function of the ONT in the ONT service profile 10.

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

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

27.3.11.Configuring the maximum number of MAC addresses for an ONT port in the service template

Command syntax	OLT(config-ont-srvprofile-10)# **port eth <port-list> max-mac-count {unlimited | < Maximum- number > }**

Applicable view	Business Template View
Function Description	This command is used to configure the limit on the number of MAC addresses of an ONT port
unlimited	Indicates that there is no limit. The ONT port does not impose any limit on the number of MAC addresses that can pass through.
<Max MAC count>	Indicates the maximum number of mac addresses passed through the ONT port, ranging from 1 to 255

【Configuration case】

Case 1: Set the maximum number of mac addresses for the eth1 port in ONT service profile 10 to 10

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

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

27.3.12.View the configuration of the current business template

Command syntax	OLT(config-ont-srvprofile-10)# **show ont-srvprofile current**
Applicable view	Business Template Configuration View
Function Description	This command is used to view the configuration of the current business template

【Configuration case】

Case 1: View the current business template configuration

```
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 POLICY
---------------------------------------------- -------------------------
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 default-tag 100 0 unlimited
ETH 2 transparent - - unlimited
ETH 3 transparent - - unlimited
ETH 4 transparent - - unlimited
---------------------------------------------- ------------------------------------
```

27.3.13.Querying the ONT Service Template Information on the OLT

Command syntax	OLT(config)# **show ont-srvprofile gpon {all | profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the information of the ONT service template that has been created in the system.
all	View all business template information on OLT
profile-id <profile-id	View the business template information of the specified id.
profile-name <profile-name>	View business template information for the specified name.

【Configuration case】

Case 1: View information about the ONT service template 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 POLICY
---------------------------------------------- -------------------------
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)#
```

27.3.14.Submit the current business template configuration

Command syntax	OLT(config-ont-srvprofile-10)# **commit**
Applicable view	Business Template Configuration View
Function Description	This command is used to submit the current business template configuration. Only after this command is successfully submitted, all parameter configurations of the business template will take effect.

【Configuration case】

Case 1: Submit the current business template configuration

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

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

27.4.Traffic Template Configuration

27.4.1.Create a traffic template

Command syntax	OLT(config)# **traffic-profile profile-id <Profile ID> profile-name <profile name> cir <c ommitted- r ate- value> pir < p eek- r ate-rate> cbs <c ommitted- b urst- s ize > pbs < p eek- b urst- s ize >**
Applicable view	config view
Function Description	This command is used to create a traffic profile and configure traffic profile parameters for use with rate limiting.
<Profile ID>	ID of the traffic template, the value range is 1-256
<profile name>	The name of the traffic template, the length supports 1-16 characters
<committed- rate-value>	Configure the guaranteed bandwidth, the value range is 64-1024000 , the unit is kbps
< peek- rate- rate>	Configure best effort bandwidth, the value range is 64-102400 , the unit is kbps
<committed- burst-size >	Configure the committed burst size, the value range is 2000-10240000, the unit is byte
< peek- burst- size >	Configure the peak burst size, the value range is 2000-10240000, the unit is byte

【Configuration case】

Case 1: Create a traffic template with id 10, name test1, cir 128, pir 256, cbs2000, pbs3000 traffic template

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

OLT(config)#
```

27.4.2.Modify Traffic Template

Command syntax	OLT(config)# **traffic-profile modify { profile-id < Profile - ID > | profile-name <profile-name> } { cir <c ommitted- r ate- value> | pir < p eek- r ate- rate> | cbs <c ommitted- b urst- s ize > | pbs < p eek- b urst- s ize >}**
Applicable view	config view
Function Description	This command is used to modify traffic template parameters.
< Profile - ID >	ID of the traffic template, the value range is 1-256
<profile-name>	The name of the traffic template, the value range is 1-16
<c ommitted- r ate- value>	Modify the guaranteed bandwidth, the value range is 64-1024000 , the unit is kbps
< p eek- r ate- rate>	Modify the best effort bandwidth, the value range is 64-102400 , the unit is kbps
<c ommitted- b urst- s ize >	Modify the committed burst size, the value range is 2000-10240000, the unit is byte
< peek- b urst- s ize >	Modify the peak burst size, the value range is 2000-10240000, the unit is byte

【Configuration case】

Case 1: Modify the traffic template id to 10 and the cir of the traffic template to 150.

```
OLT(config)# traffic-profile modify profile-id 10 cir 150

OLT(config)#
```

27.4.3.View traffic template configuration

Command syntax	OLT(config)# **show traffic-profile all**
Applicable view	config view
Function Description	This command is used to view all traffic profiles on the OLT.

【Configuration case】

Case 1 View all traffic template configurations on the OLT

```
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)#
```

27.5.ONT Digitmap Template Configuration

27.5.1.Create a new ONT digital map template

Command syntax	OLT(config)# **ont-digitmap-profile {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	The ont-digitmap-profile command is used to create an ONT digitmap template. The ONT digitmap template saves the digitmap information of the ONT, including the digitmap format and the timeout duration of the digitmap timer. After the new template is added, it can take effect after being bound to the user.
<profile-id>	ONT digitmap template ID, uniquely identifies a template, the value range: 0-16. When not specified, the system automatically assigns the smallest free template number . Digitmap template 0 is the default template of the system. If the ONT does not specify a bound digitmap template, it will automatically match the digitmap template 0 .
<profile-name>	ONT digital map template, the length supports 1-16 characters. The default template name is digitmap_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT digital map template with ID 1 .

```
OLT(config)# ont-digitmap-profile profile-id 1

OLT(config-digitmap-profile-1)#
```

27.5.2.The timer timeout period when exact matching is configured in the digitmap template

Command syntax	OLT(config-digitmap-profile-1)# **critical-dial-time < critical-dial-time-value >**
Applicable view	Digitmap Template View

Function Description	the time-out duration of the digitmap timer when the exact match in the ONT digitmap template (the number pressed by the user is exactly the same as the format in the digitmap template).
< critical-dial-time-value >	Value range: 1-65535. Unit: ms. Default value: 4000.

【Configuration case】

Case 1: When the exact match in ONT digitmap template 1 is set, the timeout period of the digitmap timer is 4000

```
OLT(config-digitmap-profile-1)# critical-dial-time 4000
```

27.5.3.Configure the timer timeout duration for partial matching in the digitmap template

Command syntax	OLT(config-digitmap-profile-1)# **critical-dial-time < critical-dial-time-value >**
Applicable view	Digitmap Template View
Function Description	This command is used to set the timeout duration of the digitmap timer when the part of the ONT digitmap template matches (the number pressed by the user is only partially consistent with the format in the digitmap template).
< partial-dial-time-value >	Value range: 1-65535. Unit: ms. Default value: 16000.

【Configuration case】

Case 1: When setting the partial match in the ONT digitmap template 1, the timeout period of the digitmap timer is 16000

```
OLT(config-digitmap-profile-1)# partial-dial-time 16000
```

27.5.4.Configure the digitmap format in the digitmap template

Command syntax	OLT(config-digitmap-profile-1)# **digitmap-format <digitmap-format-value>**
Applicable view	Digitmap Template View
Function Description	format in the ONT digitmap template

<digitmap-format-value>	Ranges: h.248 : Represents a digit map in H248 format ncs : Represents a digitmap in ncs format n ot_defined: Indicates that the digital map inside the ONT is used v endor_specific: Indicates a digitmap in a manufacturer-defined format Default: h .248.

【Configuration case】

Case 1: Set the digitmap format in ONT digitmap template 1 to h.248

```
OLT(config-digitmap-profile-1)# digitmap-format h248
```

27.5.5.Configure sub-digitmap scheme in digitmap template

Command syntax	OLT(config-digitmap-profile-1)# **token < token index > < token value > _**
Applicable view	Digitmap Template View
Function Description	This command is used to add a sub-digitmap scheme to the specified ONT digitmap template. The content of the sub-digit map scheme is the number matching rule.
< token index >	Subfigure scheme ID. Value range: 1-10
< token value > _	The content of the sub-digit map scheme, that is, the number matching rule. The input string length is 1-27

【Configuration case】

Case 1: Set the sub-digitmap scheme in ONT digitmap template 1 to 8888XXXX

```
OLT(config-digitmap-profile-1)# token 1 8888XXXX
```

27.5.6.Delete sub-digitmap scheme in digitmap template

Command syntax	OLT(config-digitmap-profile-1)# **no token < token index >**
Applicable view	Digitmap Template View
Function Description	This command is used to delete the sub-digitmap scheme in the specified ONT digitmap template.
< token index >	Subfigure scheme ID. Value range: 1-10

【Configuration case】

Case 1: Delete sub-digitmap scheme 1 in ONT digitmap template 1

```
OLT(config-digitmap-profile-1)# no token 1
OLT(config-digitmap-profile-1)#
```

27.5.7.View the configuration of the current digitmap template

Command syntax	OLT(config-ont-srvprofile-10)# **show ont-digitmap-profile current**
Applicable view	Digitmap Template Configuration View
Function Description	This command is used to view the configuration of the current digitmap template

【Configuration case】

Case 1: View the current digitmap template configuration

```
OLT(config-digitmap-profile-1)# show ont-digitmap-profile current
---------------------------------------------- ---------------------------------------
Profile-ID : 1
Profile-name : test
Binding times : 0
---------------------------------------------- -------------------------
Critical dial time : 4000(ms)
Partial dial time : 16000(ms)
Digital map format: H.248
---------------------------------------------- -------------------------
dial-plan-id dial-plan-token
---------------------------------------------- -------------------------
1 XL
---------------------------------------------- ---------------------------------------
```

27.5.8.Submit the current digitmap template configuration

Command syntax	OLT(config-digitmap-profile-1)# **commit**
Applicable view	Digitmap Template Configuration View
Function Description	This command is used to submit the current digitmap template configuration. Only after successful submission using this command, the parameter configuration of all logarithmic graph templates will take effect.

【Configuration case】

Case 1: Submit the current digital map template configuration

```
OLT(config-digitmap-profile-1)# commit
```

27.5.9.Querying the ONT digitmap template information on the OLT

Command syntax	OLT(config)# **show ont-digitmap-profile {all | profile-id <profile-id> | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the information of the ONT digital map template that has been created in the system.
all	digitmap template information on OLT
profile-id <profile-id	digitmap template information of the specified id .
profile-name <profile-name>	View the digitmap template information of the specified name.

【Configuration case】

Case 1: View all ONT digital map template information on the OLT .

```
OLT(config)# show ont-digitmap-profile all
------------------------------------------------ ------------------------------------
Profile-ID Profile-name Binding times
------------------------------------------------ -------------------------
0 digitmap_0 1
1 test 0
------------------------------------------------ ------------------------------------
Total: 2
```

27.5.10.Delete the ONT digitmap template on the OLT

Command syntax	OLT(config)# **no ont-digitmap-profile { profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to delete the ONT digital map template information that has been created in the system.
profile-id <profile-id	Delete the digitmap template information of the specified id .
profile-name <profile-name>	Delete the digitmap template information of the specified name .

【Configuration case】

Case 1: Delete ONT digitmap template 1 on the OLT .

```
OLT(config)# no ont-digitmap-profile profile-id 1
```

27.6.ONT POTS port template configuration

27.6.1.Create a new ONT POTS port profile

Command syntax	OLT(config)# **ont-pots-profile {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	The ont-pots-profile command is used to add a POTS port profile of the ONT. The POTS port template saves the physical properties of the ONT POTS port, such as port impedance, transmit/receive gain, and port signaling type.
<profile-id>	ONT POTS port profile ID, which uniquely identifies a profile, the value range: 0-16. When not specified, the system automatically assigns the smallest free template number . The POTS port template 0 is the default template of the system. If the ONT does not specify a binding POTS port template, it will automatically match the default template.
<profile-name>	ONT POTS port template name, the length supports 1-16 characters. The default template name is pots_profile__x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT POTS port template with ID 1 .

```
OLT(config)# ont-pots-profile profile-id 1
OLT(config-pots-profile-1)#
```

27.6.2.Impedance is configured in the ONT POTS port profile

Command syntax	OLT(config-pots-profile-1)# **impedance < impedance-value >**
Applicable view	POTS port template view
Function Description	This command is used to set the impedance of the POTS port in the ONT POTS port profile.
< impedance-value >	Ranges: 0: 600 Ohms

	1: 900 Ohms 2: C1=150 nF, R1=750 Ohm, R2=270 Ohm 3: C1=115 nF, R1=820 Ohm, R2=220 Ohm 4: C1=230 nF, R1=1050 Ohm, R2=320 Ohm Default value: 2.

【Configuration case】

Case 1: Set the POTS port impedance in ONT POTS port template 1 to type 2

```
OLT(config-pots-profile-1)# impedance 2
```

27.6.3.the signaling type of the POTS port in the ONT POTS port profile

Command syntax	OLT(config-pots-profile-1)# **pots-side-signaling < pots-side-signaling-value >**
Applicable view	POTS port template view
Function Description	the signaling type of the POTS port in the ONT POTS port profile .
< pots-side-signaling-value >	Value range: 1, 2, 3, 4, 5, 6. 1: Loop start indicates the loop start signal (when the AB line is looped back, it means off-hook, and when the AB line is disconnected, it means on-hook, generally used for home phones). 2: Ground start means ground start signal (monitor whether the potential of the Ring line is close to the ground potential (ground means off-hook), generally used for PBX or relay). 3: Loop reverse battery means loop reverse battery signaling (POTS port with reverse polarity function, generally used for phones with billing function). 4: Coin first refers to the port where the coin-operated phone is connected, and the coin must be put in before making a call. 5: Dial tone first refers to the port that connects to the coin-operated phone, you can play the dial tone before the coin is put in. 6: Multi-party refers to a port where multiple phones are connected in parallel on one line. Default value: 1.

【Configuration case】

Case 1: Set the POTS port signaling type in ONT POTS port profile 1 to 1

```
OLT(config-pots-profile-1)# pots-side-signaling 1
```

27.6.4.the transmit gain of the POTS port in the ONT POTS port profile

Command syntax	OLT(config-pots-profile-1)# **txgain < txgain -value>**
Applicable view	POTS port template view
Function Description	This command is used to set the transmit gain of the POTS port in the ONT POTS port profile.
< txgain -value>	Value range: 0, 1, 2...36 (integer from 0-36). Among them: 0 means -12dB, 1 means -11.5dB, 36 means +6dB, in increments of 0.5dB. Default: 24 (0dB)

【Configuration case】

Case 1: Set the POTS port transmit gain in ONT POTS port template 1 to 0dB

```
OLT(config-pots-profile-1)# t xgain 24
```

27.6.5.the receive gain of the POTS port in the ONT POTS port profile

Command syntax	OLT(config-pots-profile-1)# **rxgain < rxgain -value>**
Applicable view	POTS port template view
Function Description	This command is used to set the receive gain of the POTS port in the ONT POTS port profile.
< rxgain -value>	Value range: 0, 1, 2...36 (integer from 0-36). Among them: 0 means -12dB, 1 means -11.5dB, 36 means +6dB, in increments of 0.5dB. Default: 24 (0dB)

【Configuration case】

Case 1: Set the POTS port receive gain in ONT POTS port template 1 to 0dB

```
OLT(config-pots-profile-1)# rxgain 24
```

27.6.6.View the configuration of the current ONT POTS port profile

Command syntax	OLT(config-pots-profile-1)# **show ont-pots-profile current**

Applicable view	POTS port template configuration view
Function Description	This command is used to view the configuration of the current POTS port template

【Configuration case】

Case 1: View the current POTS port template configuration

```
OLT(config-pots-profile-1)# show ont-pots-profile current
-------------------------------------------------- ----------------------------------------
Profile-ID : 1
Profile-name : pots_profile_1
Binding times : 0
-------------------------------------------------- -------------------------
Impedance : C1=150 nf, R1=750 Ohm, R2=270 Ohm
Tx gain : 0(dB)
Rxgaim : 0(dB)
Pots side signalling : Loop start
-------------------------------------------------- ----------------------------------------
```

27.6.7.Submit the current ONT POTS port template configuration

Command syntax	OLT(config-pots-profile-1)# **commit**
Applicable view	POTS port template configuration view
Function Description	This command is used to submit the current POTS port template configuration. Only after this command is successfully submitted, all parameter configurations of the POTS port template will take effect.

【Configuration case】

Case 1: Submit the current POTS port template configuration

```
OLT(config-pots-profile-1)# commit
```

27.6.8.Querying the ONT POTS port profile information on the OLT

Command syntax	OLT(config)# **show ont-pots-profile {all | profile-id <profile-id> | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the information of the ONT POTS port template that has been created in the system.
all	POTS port template information on the OLT

profile-id <profile-id	POTS port template information of the specified id .
profile-name <profile-name>	POTS port template with the specified name .

【Configuration case】

Case 1: View all ONT POTS port profile information on the OLT .

```
OLT(config)# show ont-pots-profile all
------------------------------------------------ ---------------------------------------
Profile-ID Profile-name Binding times
------------------------------------------------ -------------------------
0 pots_profile_0 1
1 pots_profile_1 0
------------------------------------------------ ---------------------------------------
Total: 2

OLT(config)#
```

27.6.9.Deleting the ONT POTS port profile on the OLT

Command syntax	OLT(config)# **no ont-pots-profile { profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to delete the ONT POTS port template created in the system.
profile-id <profile-id	Deletes the POTS port template with the specified id .
profile-name <profile-name>	Deletes the POTS port template with the specified name .

【Configuration case】

Case 1: Delete ONT POTS port template 1 on the OLT .

```
OLT(config)# no ont-pots-profile profile-id 1
OLT(config)#
```

27.7.ONT SIP Proxy Template Configuration

27.7.1.Create a new ONT SIP proxy template

Command syntax	OLT(config)# **ont-sipagent-profile {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	The ont-sipagent-profile command is used to add the SIP proxy profile of the ONT . The ONT SIP proxy template saves the basic attribute configuration data of the ONT SIP interface, such as the IP address of the SIP active or standby proxy server.
<profile-id>	ONT SIP proxy template ID, uniquely identifies a template, the value range: 0-16. When not specified, the system automatically assigns the smallest free template number . ONT SIP proxy template 0 is the default template of the system. If the ONT does not specify and bind the ONT SIP proxy template , it will automatically match the default template.
<profile-name>	ONT SIP proxy template name, the length supports 1-16 characters. The default template name is sipagent_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter ONT SIP proxy template with ID 1

```
OLT(config)# ont-sipagent-profile profile-id 1
OLT(config-sipagent-profile-1)#
```

27.7.2.the proxy server IP address or domain name in the ONT SIP proxy template

Command syntax	OLT(config-sipagent-profile-1)# **proxy-server <proxy-server-uri >**
Applicable view	ONT SIP proxy template view
Function Description	proxy server IP address or domain name in the ONT SIP proxy template
<proxy-server-uri >	String type, the input string length is 1-63.

【Configuration case】

Case 1: Set the proxy server IP address in ONT SIP proxy template 1 to 192.168.2.201

```
OLT(config-sipagent-profile-1)# proxy-server 192.168.2.201
OLT(config-sipagent-profile-1)#
```

27.7.3.View the configuration of the current ONT SIP proxy template

Command syntax	OLT(config-sipagent-profile-1)# **show ont-sipagent-profile current**
Applicable view	ONT SIP proxy template configuration view
Function Description	This command is used to view the configuration of the current ONT SIP proxy template

【Configuration case】

Case 1: View the current ONT SIP proxy template configuration

```
OLT(config-sipagent-profile-1)# show ont-sipagent-profile current
------------------------------------------------- ---------------------------------------
Profile-ID : 1
Profile-name : sipagent_1
Binding times : 0
------------------------------------------------- -------------------------
Proxy server: 192.168.2.201
Proxy server port : 0

Rtp
Min port : 50000
Max port : 60000
Dscp : 46

Signal
Transfer mode : UDP
Port : 5070
Dscp : 24

Registration
Server :
Port : 0
Expiration : 600(s)
Rereg head start time : 300(s)

Voice mail
Server :
Subscription expiration : 3600(s)

Conf fatcory :
Bridged line agent :
Auth realm :

Outbound server :
```

```
Outbound server port : 0
---------------------------------------------- ----------------------------------------


OLT(config-sipagent-profile-1)#
```

27.7.4.Submit the current ONT SIP proxy template configuration

Command syntax	OLT(config-sipagent-profile-1)# **commit**
Applicable view	ONT SIP proxy template configuration view
Function Description	This command is used to submit the current ONT SIP proxy template configuration. Only after this command is successfully submitted, all parameter configurations of the ONT SIP proxy template will take effect.

【Configuration case】

Case 1: Submit the current ONT SIP proxy template configuration

```
OLT(config-sipagent-profile-1)# commit
OLT(config-sipagent-profile-1)#
```

27.7.5.Querying the ONT SIP Proxy Template Information on the OLT

Command syntax	OLT(config)# **show ont-sipagent-profile {all | profile-id <profile-id> | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the ONT SIP proxy template information that has been created in the system.
all	ONT SIP proxy template information on the OLT
profile-id <profile-id	ONT SIP proxy template information of the specified id .
profile-name <profile-name>	ONT SIP proxy template of the specified name .

【Configuration case】

Case 1: View all ONT SIP proxy template information on the OLT .

```
OLT(config)# show ont-sipagent-profile all
---------------------------------------------- ----------------------------------------
```

```
Profile-ID Profile-name Binding times
---------------------------------------------- ------------------------
0 sipagent_0 0
1 sipagent_1 0
2 first 1
---------------------------------------------- ------------------------------------
Total: 3

OLT(config)#
```

27.7.6.Delete ONT SIP Proxy Template on OLT

Command syntax	OLT(config)# **no ont-sipagent-profile { profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to delete the ONT SIP proxy template created in the system.
profile-id <profile-id	Deletes the ONT SIP proxy template with the specified id .
profile-name <profile-name>	Deletes the ONT SIP proxy template with the specified name .

【Configuration case】

Case 1: Delete ONT SIP Proxy Template 1 on OLT .

```
OLT(config)# no ont-sipagent-profile profile-id 1
OLT(config)#
```

27.8.ONT SIP Service Data Template Configuration

27.8.1.Create a new ONT SIP service data template

Command syntax	OLT(config)# **ont-siprightflag-profile {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	The ont-siprightflag-profile command is used to add the SIP service data profile of the ONT.
<profile-id>	ONT SIP service data template ID, uniquely identifies a template, the value range: 0-16. When not specified, the system automatically assigns the smallest free template number . SIP service data template

	0 is the default template of the system. If the ONT does not specify the binding SIP service data template, it will automatically match the default template.
<profile-name>	ONT SIP service data template, the length supports 1-16 characters. The default template name is sipright_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT SIP service data template with ID 1 .

```
OLT(config)# ont-siprightflag-profile profile-id 1
OLT(config-siprightflag-profile-1)#
```

27.8.2.Enable or disable the call hold permission in the ONT SIP service data profile

Command syntax	OLT(config-siprightflag-profile-1)# **call-hold {enable|disable}**
Applicable view	SIP service data template view
Function Description	call hold permission in the ONT SIP service data profile .
enable|disable	disable: Disable call hold permission . enable: Enable call hold permission .

【Configuration case】

Case 1: Enabling call hold permission in ONT SIP service data profile 1

```
OLT(config-siprightflag-profile-1)# call-hold enable
OLT(config-siprightflag-profile-1)#
```

27.8.3.Enable or disable the call park permission in the ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# **call-park {enable|disable}**
Applicable view	SIP service data template view
Function Description	call park permission in the ONT SIP service data profile .
enable|disable	disable: Disables the call park permission . enable: Enable call park permission .

【Configuration case】

Case 1: Disable the call park permission in ONT SIP service data profile 1

```
OLT(config-siprightflag-profile-1)# call-park disable
OLT(config-siprightflag-profile-1)#
```

27.8.4.Enable or disable call forwarding permission in ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# **call-transfer {enable|disable}**
Applicable view	SIP service data template view
Function Description	call hold permission in the ONT SIP service data profile .
enable|disable	disable: Disable call forwarding permission . enable: Enable call forwarding permission .

【Configuration case】

Case 1: Disable call forwarding permission in ONT SIP service data template 1

```
OLT(config-siprightflag-profile-1)# call-transfer disable
OLT(config-siprightflag-profile-1)#
```

27.8.5.Enable or disable call waiting permission in ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# **call-waiting {enable|disable}**
Applicable view	SIP service data template view
Function Description	call waiting permission in the ONT SIP service data profile .
enable|disable	disable: Disable call waiting permission . enable: Enable call waiting permission .

【Configuration case】

Case 1: Enabling call waiting permission in ONT SIP service data profile 1

```
OLT(config-siprightflag-profile-1)# call-waiting enable
OLT(config-siprightflag-profile-1)#
```

27.8.6.Enable or disable the conference call permission in the ONT

SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# **conference {enable|disable}**
Applicable view	SIP service data template view
Function Description	conference call permission in the ONT SIP service data template .
enable|disable	disable: Disable the conference call permission . enable: Enable teleconferencing permission .

【Configuration case】

Case 1: Disable the conference call permission in ONT SIP service data template 1

```
OLT(config-siprightflag-profile-1)# conference disable
OLT(config-siprightflag-profile-1)#
```

27.8.7.Enabling or disabling the Do Not Disturb Permission for Calls in the ONT SIP Service Data Profile

Command syntax	OLT(config-siprightflag-profile-1)# **do-not-disturb {enable|disable}**
Applicable view	SIP service data template view
Function Description	call do not disturb permission in the ONT SIP service data profile .
enable|disable	disable: Disable the call do not disturb permission . enable: Enable DND permission for calls .

【Configuration case】

Case 1: Disabling the Do Not Disturb Permission in ONT SIP Service Data Profile 1

```
OLT(config-siprightflag-profile-1)# do-not-disturb disable
OLT(config-siprightflag-profile-1)#
```

27.8.8.Enable or disable the hotline service permission in the ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# **hotline {enable|disable} <hotline-num>**
Applicable view	SIP service data template view

Function Description	hotline service permission in the ONT SIP service data template .
enable|disable	disable: Disables the hotline service permission . enable: Enable hotline service permission .
hotline-num	Hotline number

【Configuration case】

Case 1: Disabling the hotline service permission in ONT SIP service data template 1

```
OLT(config-siprightflag-profile-1)# hotline disable
OLT(config-siprightflag-profile-1)#
```

27.8.9.Enable or disable the message waiting indication permission in the ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# mwi {enable|disable}
Applicable view	SIP service data template view
Function Description	message waiting indication authority in the ONT SIP service data template .
enable|disable	disable: Disable message waiting to indicate permission . enable: Enable message waiting indication permission .

【Configuration case】

Case 1: Disable the message waiting indication permission in ONT SIP service data template 1

```
OLT(config-siprightflag-profile-1)# mwi disable
OLT(config-siprightflag-profile-1)#
```

27.8.10.Enable or disable the three-party call permission in the ONT SIP service data template

Command syntax	OLT(config-siprightflag-profile-1)# three-party {enable|disable}
Applicable view	SIP service data template view
Function Description	party call permission in the ONT SIP service data template .
enable|disable	disable: Disable the three-way call permission . enable: Enable three-way calling permission .

【Configuration case】

Case 1: Enabling the three-party call permission in ONT SIP service data template 1

```
OLT(config-siprightflag-profile-0)# three-party enable
OLT(config-siprightflag-profile-0)#
```

27.8.11.View the configuration of the current ONT SIP service data template

Command syntax	OLT(config-sipagent-profile-1)# **show ont-sipagent-profile current**
Applicable view	SIP service data template configuration view
Function Description	This command is used to view the configuration of the current SIP service data template

【Configuration case】

Case 1: View the current SIP service data template configuration

```
OLT(config-siprightflag-profile-1)# show ont-siprightflag-profile current
-------------------------------------------------- ----------------------------------------
Profile-ID : 1
Profile-name : sipright_1
Binding times : 0
-------------------------------------------------- --------------------------
Call waiting : enable
Call transfer : disable
Call hold : enable
Call park : disable
Three party : enable
Do not disturb : disable
Conference : disable
Mwi : disable
Hotline : disable
Hotline numbers :
Hotline delay : disable
-------------------------------------------------- ----------------------------------------

OLT(config-siprightflag-profile-1)#
```

27.8.12.Submit the current ONT SIP service data template configuration

Command syntax	OLT(config-siprightflag-profile-1)# **commit**
Applicable view	SIP service data template configuration view
Function Description	This command is used to submit the current SIP service data template configuration. Only after this command is successfully submitted, all parameter configurations of the SIP service data template will take effect.

【Configuration case】

Case 1: Submit the current SIP service data template configuration

```
OLT(config-siprightflag-profile-1)# commit
OLT(config-siprightflag-profile-1)#
```

27.8.13.Querying the ONT SIP service data template information on the OLT

Command syntax	OLT(config)# **show ont-siprightflag-profile {all | profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the ONT SIP service data template information that has been created in the system.
all	SIP service data template information on the OLT
profile-id <profile-id	SIP service data template of the specified id .
profile-name <profile-name>	View the SIP service data template information of the specified name.

【Configuration case】

Case 1: View all ONT SIP service data template information on the OLT .

```
OLT(config)# show ont-siprightflag-profile all
------------------------------------------------ ---------------------------------------
Profile-ID Profile-name Binding times
------------------------------------------------ ---------------------------
0 sipright_0 1
1 sipright_1 0
2 sipright_2 0
------------------------------------------------ ---------------------------------------
Total: 3
```

```
OLT(config)#
```

27.8.14.Deleting the ONT SIP Service Data Template on the OLT

Command syntax	OLT(config)# **no ont-siprightflag-profile { profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to delete the ONT SIP service data template created in the system.
profile-id <profile-id	Delete the SIP service data template with the specified id .
profile-name <profile-name>	Delete the SIP service data template of the specified name .

【Configuration case】

Case 1: Delete ONT SIP service data template 1 on the OLT .

```
OLT(config)# no ont-siprightflag-profile profile-id 1
OLT(config)#
```

27.9.ONT Multicast ACL Template Configuration

27.9.1.Create an ONT Multicast ACL Profile

Command syntax	OLT(config)# **ont-igmpacl gpon {acl-id < ACL - ID > | acl - name < ACL - NAME >}**
Applicable view	config view
Function Description	The ont-igmpacl command is used to add an ONT multicast acl template. An ONT multicast acl profile is used to add multicast entries.
< ACL - ID >	ONT multicast acl template ID, which uniquely identifies a template. Value range: 1-256. When not specified, the system automatically assigns the smallest free template number .
< ACL - NAME >	ONT multicast acl template , which can be 1 to 32 characters long. The default template name is igmpacl_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT multicast ACL profile with ID 1 .

```
OLT(config)# ont-igmpacl gpon acl-id 1
OLT(config-ont-igmpacl-1)#
```

27.9.2.Add a multicast entry to the ONT multicast ACL template

Command syntax	OLT(config-ont-igmpacl-1)# **igmp rule add < rule - ID > { <multicast-vlan -id > /untagged} <start-ip><end-ip>**
Applicable view	Multicast ACL template view
Function Description	This command is used to add a multicast entry rule to the ONT multicast ACL template
<rule-id>	ACL rule ID , the value range is 1-16
<multicast-vlan -id >	Multicast VLAN ID , the value range is 1-4094
<start-ip>/<end-ip>	Start and end multicast IP addresses. When two IPs are configured with the same value, a single multicast entry is added. When different values are configured, multicast entries are configured in batches.

【Configuration case】

Case 1: Add a multicast vlan 100 to the ONT multicast ACL template 1 , and the multicast program IP is 224.1.1.1-224.1.1.10.

```
OLT(config-ont-igmpacl-1)# igmp rule add 1 100 224.1.1.1 224.1.1.10
OLT(config-ont-igmpacl-1)#
```

27.9.3.Delete the multicast entry from the ONT multicast ACL template

Command syntax	OLT(config-ont-igmpacl-1)# **igmp rule delete < rule - ID >**
Applicable view	Multicast ACL template view
Function Description	This command is used to delete the created multicast entry rule in the ONT multicast ACL template.
<rule-id>	ACL rule ID , the value range is 1-16

【Configuration case】

Case 1: Delete the multicast entry rule with rule ID 1 in ONT multicast ACL template 1

```
OLT(config-ont-igmpacl-1)# igmp rule delete 1
OLT(config-ont-igmpacl-1)#
```

27.9.4.View the configuration of the current ONT multicast ACL profile

Command syntax	OLT(config-ont-igmpacl-1)# **show ont-igmpacl current**
Applicable view	Multicast ACL template configuration view
Function Description	This command is used to view the configuration of the current multicast ACL template

【Configuration case】

Case 1: View the current multicast ACL template configuration

```
OLT(config-ont-igmpacl-1)# show ont-igmpacl current
------------------------------------------- ---------------------------------------
Acl-ID : 1
Acl-name : test
Binding times : 0
------------------------------------------- ---------------------------------------
Rule Vlan Dest Dest Imputed
ID ID IP-Start IP-End group-bw
------------------------------------------- -------------------------
1 100 224.1.1.1 224.2.2.2 unlimited
------------------------------------------- ---------------------------------------
Rule Preview Preview Preview Preview Preview
ID length interval count reset-mode reset-time
------------------------------------------- -------------------------
1 unlimited 120 unlimited manually -
------------------------------------------- ---------------------------------------
Rule Total: 1
------------------------------------------- ---------------------------------------

OLT(config-ont-igmpacl-1)#
```

27.9.5.Submit the current ONT multicast ACL template configuration

Command syntax	OLT(config-ont-igmpacl-1)# **commit**
Applicable view	Multicast ACL template configuration view

Function Description	This command is used to submit the current multicast ACL template configuration. Only after this command is successfully submitted, all parameter configurations of the multicast ACL template will take effect.

【Configuration case】

Case 1: Submit the current multicast ACL template configuration

```
OLT(config-ont-igmpacl-1)# commit
OLT(config-ont-igmpacl-1)#
```

27.9.6.Querying the ONT Multicast ACL Profile Information on the OLT

Command syntax	OLT(config)# **show ont-igmpacl gpon {all |acl-id < ACL - ID > | acl -name < ACL - NAME >}**
Applicable view	config view
Function Description	This command is used to query the information of the ONT multicast ACL template that has been created in the system.
all	View information about all multicast ACL profiles on the OLT
< ACL - ID >	multicast ACL template of the specified id .
< ACL - NAME >	multicast ACL template of the specified name .

【Configuration case】

Case 1: View all ONT multicast ACL profile information on the OLT.

```
OLT(config)# show ont-igmpacl gpon all
------------------------------------------------ ------------------------------------
Acl-ID Acl-name Binding times
------------------------------------------------ ------------------------
1 test 0
2 igmpacl_2 0
------------------------------------------------ ------------------------------------
Total: 2

OLT(config)#
```

27.9.7.Deleting the ONT Multicast ACL Profile on the OLT

Command syntax	OLT(config)# **no ont-igmpacl gpon {acl-id < ACL - ID > | acl -name < ACL - NAME >}**

Applicable view	config view
Function Description	This command is used to delete the ONT multicast ACL template created in the system.
< ACL - ID >	Delete the multicast ACL template with the specified id .
< ACL - NAME >	Deletes the multicast ACL template with the specified name .

【Configuration case】

Case 1: Delete ONT multicast ACL profile 2 on the OLT .

```
OLT(config)# no ont-igmpacl gpon acl-id 2
OLT(config)#
```

27.10.ONT WAN template configuration

27.10.1.Create a new WAN template

Command syntax	OLT(config)# **ont-wanprofile gpon (profile-id <1-256> | profile-name NAME)**
Applicable view	config view
Function Description	The ont-wanprofile gpon command is used to create or enter an existing onu wan template. It mainly configures the general parameters of wan, such as adding a static wan, but not configuring the specific ip, configuring the binding port, and the connection status vlan mode, etc.
profile-id <1-256>	ONU WAN template ID, if not specified, the system will automatically assign the minimum idle ID
profile-name NAME	Onu wan template name, the default name is wanprofile_x, ' x ' is the actual wan template number

【Configuration case】

Case 1: Create and enter the onu wan template with ID 1

```
OLT(config)# ont-wanprofile gpon profile-id 1
OLT(config-ont-wanprofile-1)#
```

27.10.2.Add Bridge Wan

Command syntax	OLT(config-ont-wanprofile-1)# **wan add (<1-8>|WANNAME) ipv4 bridge (internet | other) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>) mvlan <1-4094>**

Applicable view	wan template view
Function Description	Add an ipv4 bridge wan
<1-8>|WANNAME	1-8: add wan id as index WANNAME: Specify the wan name to add, the name length is 1-24, the new wan will automatically generate a wan index
(internet | other)	Service type, bridge mode only has internet and other two
(untag | transparent | tag <1-4094> priority <0-7>)	Vlan processing mode: Untag: Only allow packets that do not carry vlan Transparent: Transparent transmission Tag: set the vlan id of wan, the value range is 1-4094, priority: 0-7
mvlan <1-4094>	Multicast vlan value 1-4094

【Configuration case】

Case 1: Add an ipv4 bridge wan with index 1, service type internet, configure wan vlanid to 100, priority 0 multicast vlan 200

```
OLT(config-ont-wanprofile-1)# wan add 1 ipv4 bridge internet vlan-mode tag 100 priority 0 mvlan 200
```

27.10.3.Add Route Wan

Command syntax	OLT(config-ont-wanprofile-1)# **wan add (<1-8>|WANNAME) ipv4 route (internet | other | tr069 | tr069-internet | tr069-voice | tr069-voice-internet |voice | voice-internet) (static | pppoe | dhcp) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>)igmp-proxy (enable <1-4094> | disable)**
Applicable view	wan template view
Function Description	Add an ipv4 route wan
<1-8>|WANNAME	1-8: add wan id as index WANNAME: Specify the wan name to add, the name length is 1-24, the new wan will automatically generate a wan index
(internet | other |tr069|tr069-internet|tr069-voice|tr069-voice-	service type, tr069 | voice | tr069-voice cannot bind port

internet|voice|voice-internet)	
static | pppoe | dhcp	Ip mode: The template adds wan to the corresponding Ip mode without assigning specific corresponding values, such as specific ip, pppoe name, etc. The configuration of the specific mode should be configured for onu under discrete
(untag | tag <1-4094> priority <0-7>)	Vlan processing mode: Untag: Only allow packets that do not carry vlan Tag: set the vlan id of wan, the value range is 1-4094, priority: 0-7
igmp-proxy (enable <1-4094> | disable)	Whether to enable multicast proxy, optional. Enable: Enable, <1-4094> multicast vlan, the value range is 1-4094 Disable; close

【Configuration case】

Case 1: Add an ipv4 route wan with index 1, service type internet, select static ip allocation mode, configure wan vlanid as 100, priority 0, enable multicast proxy multicast vlan 200

```
OLT(config-ont-wanprofile-1)# wan add 1 ipv4 route internet static vlan-mode tag 100 priority 0 igmp-proxy enable 200
```

27.10.4.Modify WAN parameters

Command syntax	OLT(config-ont-wanprofile-1)# **wan modify (<1-8>|WANNAME) service-type (internet | other | tr069 |internet-tr069 | internet-voip | internet-voip-tr069 | voip | voip-tr069) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>) {connection-status (enable | disable) | mtu <576-1500>}**
Applicable view	wan template view
Function Description	Add an ipv4 route wan
<1-8>|WANNAME	1-8: Specify wan id WANNAME: Specify the wan name, the name length is 1-24,
(internet|other |tr069|internet-tr069|internet-voip|internet-voip-tr069|voip|voip-tr069)	Modify service type

vlan-mode (untag | transparent | tag <1-4094> priority <0-7>)	Vlan processing mode: Untag: Only allow packets that do not carry vlan Transparent: Transparent transmission Tag: set the vlan id of wan, the value range is 1-4094, priority: 0-7
connection-status (enable | disable)	Modify the wan connection status: enable: connect Disable: close the connection

【Configuration case】

Case 1: Modify the connection status of wan 1 to disable

```
OLT(config-ont-wanprofile-1)# wan modify 1 connection-status disable
```

27.10.5.Delete the specified WAN

Command syntax	OLT(config-ont-wanprofile-1)# **wan del (<1-8> | WANNAME)**
Applicable view	Wan template view
Function Description	Delete the specified wan connection, if it does not exist, an error will be reported
<1-8>|WANNAME	1-8: Specify wan id to delete WANNAME: Specify the name to delete the length 1-24

【Configuration case】

Case 1: Delete the first wan

```
OLT(config-ont-wanprofile-1)# wan del 1
```

27.10.6.View current WAN template configuration

Command syntax	OLT(config-ont-wanprofile-1)# **show ont-wanprofile current**
Applicable view	Wan template view
Function Description	View the configuration of the current wan template

【Configuration case】

Case 1: View the current configuration

```
OLT(config-ont-wanprofile-1)# show ont-wanprofile current
```

```
---------------------------------------------- ----------------------------------
Profile-ID : 1
---------------------------------------------- ----------------------------------
WAN ID : 1
IP mode : Static
Connection status : enable
Connect mode : route
Connect type : Internet
VLAN mode : tag
VLAN id: 100
VLAN priority : 6
IGMP proxy : --
mvlan id : --
MTU : --
Port binding:


---------------------------------------------- ----------------------------------
WAN ID : 2
IP mode : Bridge
Connection status : enable
Connect mode : bridge
Connect type : Internet
VLAN mode : transparent
VLAN id : --
VLAN priority : --
IGMP proxy : --
mvlan id : --
MTU : --
Port binding:


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

27.10.7.Submit the current WAN template configuration

Command syntax	OLT(config-ont-wanprofile-1) # **commit**
Applicable view	Wan template view
Function Description	Commit the current template configuration

【Configuration case】

Case 1: Submit the current template

```
OLT(config-ont-wanprofile-1)# commit
```

27.10.8.View WAN Template Information

Command syntax	OLT(config)# **show ont-w an profile gpon (profile-id <1-256> | profile-name NAME|all)**
Applicable view	config view
Function Description	View wan template information
(profile-id <1-256>| profile-name NAME|all)	All: View all templates to display only the summary information, the number of bindings <1-256>:wan template number NAME: wan template name

【Configuration case】

Case 1: View all wan template information

```
OLT(config)# show ont-wanprofile gpon all
---------------------------------------------- ----------------------------------------
Profile-ID Profile-name Binding times
---------------------------------------------- -------------------------
1 wanprofile_1 0
---------------------------------------------- ----------------------------------------
Total: 1
```

27.10.9.Delete the specified WAN template

Command syntax	OLT(config)# **no ont-wanprofile gpon (profile-id <1-256> | profile-name NAME)**
Applicable view	config view
Function Description	Delete the created wan, but cannot delete the wan template bound to onu
profile-id <1-256>	ONU WAN profile number, ranging from 1 to 256
profile-name NAME	Onu wan name, name length 1-32

【Configuration case】

Case 1: Delete wan template 1

```
OLT(config)# no ont-wanprofile gpon profile-id 1
```

27.11.ONT WIFI template configuration

27.11.1.Create a new WIFI template

Command syntax	OLT(config)# **ont- wifi profile gpon (profile-id <1-256>| profile-name NAME)**
Applicable view	config view
Function Description	ont-wi ifi profile gpon command is used to create or enter an existing onu wifi template, and configure the general properties of wifi, excluding the configuration of ssid
profile-id <1-256>	ONU Wifi template number, if not specified, the system will automatically assign the minimum idle id
profile-name NAME	Onu wan profile name, the default name is wifiprofile_x, ' x ' is the actual wan profile number

【Configuration case】

Case 1: Create and enter the onu wifi template with ID 1

```
OLT(config)# ont-wi ifi profile gpon profile-id 1
OLT(config-ont- wifi profile-1)#
```

27.11.2.enable WIFI

Command syntax	OLT(config-ont-wifiprofile-1)# **wifi (2.4g | 5g) (disable|enable)**
Applicable view	wifi template view
Function Description	enable wifi
(2.4g | 5g)	Wifi frequency band value is 2.4g 5g
(disable|enable)	Enable: enable Disable: close

【Configuration case】

Case 1: Enable 2.4g band wifi

```
OLT(config-ont-wifiprofile-1)# wifi 2.4g enable
```

27.11.3.WIFI Properties 2.4g Configuration

Command syntax	OLT(config-ont-wifiprofile-1)# **wifi attribute 2.4g {wifi-mode (802.11b |802.11g |802.11b/g |802.11n |802.11b/g/n)} {channel-bandwidth (20|40) |channel-id <0-13> | wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54) | txpower (100%|80%|60%|35%|15%)| country-region (usa |india |european-union |spain |france |japan |israli |china-taiwan |russian |china |global |world-wide) | sgi-enable (disable|enable) | wps-enable (disable|enable) | ap-iso(disable|enable)}**
Applicable view	wifi template view
Function Description	Configure the wifi properties of the 2.4g frequency band, each parameter is optional
wifi-mode (802.11b|802.11g|802.11b/g|802.11n|802.11b/g/n)	Configure the working mode of the wireless network
channel-bandwidth (20|40)	Configure the channel width occupied by wireless data transmission 20: 20MHz 40: 40MHz
channel-id <0-13>	The value of the channel for wireless network work is 0-13, 0 is auto
wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)	The value of wifi rate is auto 1: 1M 2:2M 5.5:5.5M 6:6M 9:9M 12:12M 18:18M 24:24M 36: 36M 48: 48M 54: 54M
txpower (100%|80%|60%|35%|15%)	Transmission power value: 100% 80% 60% 35% 15%
country-region (usa|india|european-union|spa	Country code value: USA India European-union Spain France Japan Israli China-taiwan Russian China global world-wide

in|france|japan|israli|china-taiwan|russian|china|global|world-wide)	
sgi-enable (disable|enable)	Sgi enabled
wps-enable (disable|enable)	Wps enable
ap-iso(disable|enable)	Ap isolation enable

【Configuration case】

Case 1: Configure 2.4g frequency band wifi properties, select 802.11b channel bandwidth 40MHZ for network working mode, and select 1 for working channel

```
OLT(config-ont-wifiprofile-1) # wifi attribute 2.4g wifi-mode 802.11b channel-bandwidth 40 channel-id 1
```

27.11.4.WIFI properties 5g configuration

Command syntax	OLT(config-ont-wifiprofile-1)# **wifi attribute 5g {wifi-mode (802.11b | 802.11g | 802.11b/g | 802.11n | 802.11b/g/n | 802.11a | 802.11a/n | 802.11ac/a/n)} {channel-bandwidth (20|40|80)|channel-id (0|36|40|44|48|52|56|60|64|149|153|157|161)| wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)| txpower (100%|80%|60%|35%|15%)| country-region (usa |india |european-union |spain |france |japan |israli |china-taiwan |russian |china |global |world-wide) | sgi-enable (disable|enable) | wps-enable (disable|enable)| ap-iso(disable|enable)}**
Applicable view	wifi template view
Function Description	Configure the wifi properties of the 5g frequency band, each parameter is optional
wifi-mode	Configure **the** working mode of the wireless network

(802.11b|802.11g|802.11b/g|802.11n|802.11b/g/n|802.11a|802.11a/n|802.11ac/a/n)	
channel-bandwidth (20|40|80)	Configure the channel width occupied by wireless data transmission 20: 20MHz 40: 40MHz 80: 80MHz
channel-id <0-13>	The value of the channel for wireless network work is 0-13, 0 is auto
wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)	The value of wifi rate is auto 1: 1M 2:2M 5.5:5.5M 6:6M 9:9M 12:12M 18:18M 24:24M 36: 36M 48: 48M 54: 54M
txpower (100%|80%|60%|35%|15%)	Transmission power value: 100% 80% 60% 35% 15%
country-region (usa|india|european-union|spain|france|japan|israli|china-taiwan|russian|china|global|world-wide)	Country code value: USA India European-union Spain France Japan Israli China-taiwan Russian China global world-wide
sgi-enable (disable|enable)	Sgi enabled
wps-enable (disable|enable)	Wps enable
ap-iso(disable|enable)	Ap isolation enable

【Configuration case】

Case 1: Configure 5g band wifi properties, select `802.11b channel bandwidth 40MHZ for network working mode, and select 64 for working channel`

```
OLT(config-ont-wifiprofile-1)# wifi attribute 5g wifi-mode 802.11b channel-bandwidth
```

```
40 channel-id 64
```

27.11.5.Clear WIFI configuration

Command syntax	OLT(config-ont-wifiprofile-1)# **no wifi attribute all**
Applicable view	`wifi template view`
Function Description	clear wifi configuration

【Configuration case】

Case 1: Clear wifi configuration

```
OLT(config-ont-wifiprofile-1)# no wifi attribute all
```

27.11.6.Delete the specified WIFI template

Command syntax	OLT(config)# **no ont-w ifi profile gpon (profile-id <1-256>| profile-name NAME)**
Applicable view	`config view`
Function Description	Delete the created wifi template, but cannot delete the wifi template bound to onu
profile-id <1-256>	ONU wifi template number, ranging from 1 to 256
profile-name NAME	Onu wifi name, name length 1-32

【Configuration case】

Case 1: Delete wifi template 1

```
OLT(config)# no ont-wifiprofile gpon profile-id 1
```

27.11.7.View the current WIFI template configuration

Command syntax	OLT(config-ont-wanprofile-1)# **show ont-wifiprofile current**
Applicable view	`WIFI template view`

Function Description	View the configuration of the current wan template

【Configuration case】

Case 1: View `WIFI Template View`

```
OLT(config-ont-wifiprofile-1)# show ont-wifiprofile current
-------------------------------------------------- ----------------------------------
Profile-ID : 1
-------------------------------------------------- ----------------------------------
Wifi Band: 5g
Wifi Admin : --
Wi-Fi Mode: 802.11b
ChannelBandwidth : 40MHz
Channel ID : 64
Wi-Fi Rate    : --
Tx Power : --
Country Region    : --
Sgi Admin : --
Wps Admin : --
AP ISO : --
```

27.11.8.Submit the current WIFI template configuration

Command syntax	OLT(config-ont- wifi profile-1) # **commit**
Applicable view	`Wifi Template View`
Function Description	Commit the current template configuration

【Configuration case】

Case 1: Submit the current template configuration

```
OLT(config-interface- g pon-0/0)# commit
```

27.11.9.View WIFI template information

Command syntax	OLT(config)# **show ont-wi ifi profile gpon (profile-id <1-256>| profile-name NAME|all)**

Applicable view	config view
Function Description	View wifi template information
(profile-id <1-256>| profile-name NAME|all)	All: View all templates to display only the summary information, the number of bindings <1-256>: wifi template number NAME: wifi template name

【Configuration case】

Case 1: View all wifi template information

```
OLT(config)# show ont-wifiprofile gpon all
------------------------------------------------ ---------------------------------------
Profile-ID Profile-name Binding times
------------------------------------------------ -------------------------
1 wifiprofile_1 1
2 wifiprofile_2 0
------------------------------------------------ ---------------------------------------
Total: 2
```

27.11.10.ONU binding WIFI template

Command syntax	OLT(config-interface- gpon -0/0)# **ont wifi-profile <port-id> <onu-id> (ont-wifiprofile-id <1-256>| ont-wifiprofile-name NAME)**
Applicable view	gpon view
Function Description	onu binds a specific wifi template
<port-id>	pon port id where onu is located
<onu-id>	Onu Id
profile-id <1-256>	ONU wifi template number, ranging from 1 to 256
profile-name NAME	Onu wifi name, name length 1-32

【Configuration case】

Case 1: Bind wifi template 1 to pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# ont wifi-profile 1 1 ont-wifiprofile-id 1
```

27.11.11.ONU unbind WIFI template

Command syntax	OLT(config-interface- gpon -0/0)# **no ont wifi-profile <port-id> <onu-id>**
Applicable view	gpon view
Function Description	onu binds a specific wifi template
<port-id>	pon port id where onu is located
<onu-id>	Onu Id

【Configuration case】

Case 1: Unbind wifi template 1 of pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# no ont wifi-profile 1 1
```

27.11.12.View the WIFI template configuration bound to the ONU

Command syntax	OLT(config-interface- g pon-0/0) # **show ont wifi-profile <port-id> <onu-id>**
Applicable view	gpon view
Function Description	View the configuration information of the wifi template bound to onu
<port-id>	pon port id where onu is located
<onu-id>	Onu Id

【Configuration case】

Case 1: View the wifi template information bound to pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# show ont wifi-profile 1 1
    ------------------------------------------------ ------------------------------------
    Profile-ID : 1
    ------------------------------------------------ ------------------------------------
    Wifi Band: 2.4g
    Wifi Admin : --
    Wifi Mode : --
    ChannelBandwidth: 20MHz
```

```
        Channel ID : 1
        Wifi Rate : --
        Tx Power : --
        Country Region : --
        Sgi Admin : --
        Wps Admin : --
AP ISO : --
```

27.12.ONT Multicast Profile Configuration

27.12.1.Create an ONT Multicast Profile

Command syntax	OLT(config)# **ont-igmpprofile gpon {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	ont-igmpprofile command is used to add an ONT multicast profile.
<profile-id>	ONT multicast profile ID, which uniquely identifies a profile, ranges from 0 to 256. When not specified, the system automatically assigns the smallest free template number .
<profile-name>	ONT multicast profile, which can be 1-32 characters long. The default template name is igmpprofile_x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the ONT multicast profile with ID 1 .

```
OLT(config)# ont-igmpprofile gpon profile-id 1
OLT(config-ont-igmpprofile-1)#
```

27.12.2.Bind the multicast ACL profile to the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp control {dynamic-acl < ACL - ID > | static-acl < ACL - ID > }**
Applicable view	Multicast Template View
Function Description	This command is used to bind the ONT multicast ACL template

< ACL - ID >	ONT multicast acl template ID, uniquely identifies a template, value range: 1-256

【Configuration case】

Case 1: ONT multicast profile 1 is bound to multicast ACL profile 1

```
OLT(config-ont-igmpprofile-1)# igmp control static-acl 1
OLT(config-ont-igmpprofile-1)#
```

27.12.3.Configure the interval for sending IGMP group-specific query packets in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp last-member-query-interval < last-member-query-interval -value>**
Applicable view	Multicast Template View
Function Description	the interval for sending IGMP group-specific query packets in the ONT multicast profile .
< last-member-query-interval- value>	The interval for sending query packets of a specific group, the value range: 0-4294967295, the default value is 1S

【Configuration case】

Case 1: Configure the interval for sending IGMP group-specific query packets in the ONT multicast profile to 10

```
OLT(config-ont-igmpprofile-1)# igmp last-member-query-interval 10
OLT(config-ont-igmpprofile-1)#
```

27.12.4.Set the maximum multicast bandwidth in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp max-multicast-bandwidth {< max-multicast-bandwidth -value>| unlimited }**
Applicable view	Multicast Template View
Function Description	maximum multicast bandwidth in the ONT multicast profile . Use this parameter when you need to limit the maximum multicast bandwidth that can be used by multicast users of different levels or areas.

< max-multicast-band width- value>	The maximum multicast bandwidth value, the value range: 1-4294967295, the unit: byte/second, the default is unlimited
unlimited	Indicates that the multicast bandwidth of users is not limited

【Configuration case】

Case 1: Set the maximum multicast bandwidth in ONT multicast profile 1 to 20M

```
OLT(config-ont-igmpprofile-1)# igmp max-multicast-bandwidth 5120
OLT(config-ont-igmpprofile-1)#
```

27.12.5.Set the maximum number of programs in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp max-simultaneous-groups {<max-simultaneous-groups-value>| unlimited }**
Applicable view	Multicast Template View
Function Description	This command is used to set the maximum number of programs in the ONT multicast profile . Use this parameter when you need to set the number of programs that multicast users can watch at the same time.
<max-simultaneous-groups-value>	The maximum number of multicasts, the value range: 1-65535, the default is unlimited.
unlimited	Indicates the maximum number of programs that do not limit the user

【Configuration case】

Case 1: Set the maximum number of programs in ONT multicast profile 1 to 20

```
OLT(config-ont-igmpprofile-1)# igmp max-simultaneous-groups 20
OLT(config-ont-igmpprofile-1)#
```

27.12.6.Set the general multicast query packet interval in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp query-interval {<query-interval-value>|unconcern}**
Applicable view	Multicast Template View

Function Description	the interval of general multicast query packets in the ONT multicast profile .
<query-interval-value>	General multicast query message interval, value range: 1-4294967295, unit: S, default 125S.
unconcern	Don't pay attention, just refer to the ONT default value

【Configuration case】

Case 1: Set the general group query packet interval in ONT multicast profile 1 to 125S

```
OLT(config-ont-igmpprofile-1)# igmp query-interval 125
OLT(config-ont-igmpprofile-1)#
```

27.12.7.Set the maximum response time of query packets in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp query-max-response {<query-max-response -value>|unconcern}**
Applicable view	Multicast Template View
Function Description	the maximum response time of query packets in the ONT multicast profile .
<query-max-response - value>	Maximum response time, value range: 1-4294967295, default 10S.
unconcern	Don't pay attention, just refer to the ONT default value

【Configuration case】

Case 1: Set the maximum response time in ONT multicast profile 1 to 10S

```
OLT(config-ont-igmpprofile-1)# igmp query-max-response 100
OLT(config-ont-igmpprofile-1)#
```

27.12.8.Set the robustness coefficient of the system in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp robustness <robustness -value>**
Applicable view	Multicast Template View
Function	the robustness coefficient of the system in the ONT multicast

Description	profile
<robustness-value>	Robustness coefficient value, the value range: 0-225, the default value is 0

【Configuration case】

Set the robustness coefficient of the system to 2 in ONT multicast profile 1

```
OLT(config-ont-igmpprofile-1)# igmp robustness 2
OLT(config-ont-igmpprofile-1)#
```

27.12.9.Set the processing method for unauthorized request to join packets in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp unauthorized-join { discard |forward}**
Applicable view	Multicast Template View
Function Description	the processing method for unauthorized joining packets in the ONT multicast profile.
discard |forward	Discard : Discard processing . Forward: Normal forwarding processing .

【Configuration case】

Case 1: The ONT multicast profile 1 is set to discard the packets that request to join without authorization

```
OLT(config-ont-igmpprofile-1)# igmp unauthorized-join discard
OLT(config-ont-igmpprofile-1)#
```

27.12.10.Set the upstream multicast packet rate in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp upstream-rate {< upstream-rate -value>| unlimited }**
Applicable view	Multicast Template View
Function Description	message lamp permission in the ONT multicast profile .
< upstream-rate-value>	Upstream multicast packet rate value, the value range: 1-4294967295, the default is unlimited

unlimited	Indicates that the upstream multicast packet rate is not limited

【Configuration case】

Case 1: Unlimited upstream multicast packet rate in ONT multicast profile 1

```
OLT(config-ont-igmpprofile-1)# igmp upstream-rate unlimited
OLT(config-ont-igmpprofile-1)#
```

27.12.11.Configure the multicast version in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp version { v2 |v3}**
Applicable view	Multicast Template View
Function Description	multicast version in the ONT multicast profile
v2 |v3	Multicast version number, the default configuration is v2

【Configuration case】

Case 1: The multicast version in ONT multicast profile 1 is V2

```
OLT(config-ont-igmpprofile-1)# igmp version v2
OLT(config-ont-igmpprofile-1)#
```

27.12.12.Set the forwarding mode of upstream multicast packets in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **igmp-forward {default <VLAN ID> <VLAN tag priority> |translation <VLAN ID> <VLAN tag priority> | transparent }**
Applicable view	Multicast Template View
Function Description	the forwarding mode of upstream multicast packets in the ONT multicast profile.
Default|translation|transparent	Default: add a layer of VLAN to the packet Translation: Convert the original VLAN of the packet to another VLAN Transparent: Don't pay attention to VLAN, forward directly
<VLAN ID>	VLAN ID value, the value range is 1-4094
<VLAN tag priority>	VLAN priority, the value range is 0-7

【Configuration case】

Case 1: Set the forwarding mode of upstream multicast packets to transparent transmission in ONT multicast profile 1

```
OLT(config-ont-igmpprofile-1)# igmp-forward transparent
OLT(config-ont-igmpprofile-1)#
```

27.12.13.Enable or disable the quick leave function in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **multicast fast-leave {enable|disable}**
Applicable view	Multicast Template View
Function Description	quick leave function in the ONT multicast profile
enable|disable	disable: disable the quick leave function enable: Enable quick leave function

【Configuration case】

Case 1: Disabling the Quick Leave function in ONT SIP Service Data Profile 1

```
OLT(config-ont-igmpprofile-1)# multicast fast-leave disable
OLT(config-ont-igmpprofile-1)#
```

27.12.14.Set the ONT multicast packet forwarding mode in the ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **multicast-forward untag |{tag {translation <VLAN ID>| transparent }}**
Applicable view	Multicast Template View
Function Description	This command is used to set the ONT multicast packet forwarding mode in the ONT multicast profile.
untag|tag	Untag: Forward out to strip off VLAN Tag Tag: forwarding with VLAN tag
translation| transparent	Translation: Convert the original VLAN of the packet to another VLAN for forwarding Transparent: Don't pay attention to VLAN, forward directly
<VLAN ID>	VLAN ID value, the value range is 1-4094

【Configuration case】

Case 1: Set the ONT multicast packet forwarding mode to untag in ONT multicast profile 1

```
OLT(config-ont-igmpprofile-1)# multicast-forward untag
OLT(config-ont-igmpprofile-1)#
```

27.12.15.View the configuration of the current ONT multicast profile

Command syntax	OLT(config-ont-igmpprofile-1)# **show ont-igmpprofile current**
Applicable view	Multicast template configuration view
Function Description	This command is used to view the configuration of the current multicast profile

【Configuration case】

Case 1: View the current multicast profile configuration

```
OLT(config-ont-igmpprofile-1)# show ont-igmpprofile current
------------------------------------------------- ----------------------------------------
Profile-ID : 1
Profile-name : igmpprofile_1
Binding times : 0
------------------------------------------------- ----------------------------------------
IGMP Version : V2
IGMP Mode : IGMP snooping
IGMP fast leave : disable
Upstream IGMP rate : unlimited
Dynamic access control list table : 0
Static access control list table : 0
Robustness : 2
Query interval : 125(s)
Query max response time : 100(0.1s)
Last member query interval : 10(0.1s)
Unauthorized join request behaviour : discard
Upstream IGMP packet forward mode : transparent
Upstream IGMP packet forward VLAN : -
Upstream IGMP packet priority : -
Downstream IGMP packet forward mode : untag
Downstream IGMP packet forward VLAN : -
Max simultaneous groups : unlimited
Max multicast bandwidth : unlimited
------------------------------------------------- ----------------------------------------

OLT(config-ont-igmpprofile-1)#
```

27.12.16.Submit the current ONT multicast profile configuration

Command syntax	OLT(config-ont-igmpprofile-1)# **commit**
Applicable view	Multicast template configuration view
Function Description	This command is used to submit the current multicast template configuration. Only after this command is successfully submitted, all parameter configurations of the multicast template will take effect.

【Configuration case】

Case 1: Submit the current multicast template configuration

```
OLT(config-ont-igmpprofile-1)# commit
OLT(config-ont-igmpprofile-1)#
```

27.12.17.Querying the ONT Multicast Profile Information on the OLT

Command syntax	OLT(config)# **show ont-igmpprofile gpon {all | profile-id <profile-id> | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to query the information of the ONT multicast profile that has been created in the system.
all	View all multicast profile information on the OLT
profile-id <profile-id	multicast profile information of the specified id .
profile-name <profile-name>	multicast template of the specified name .

【Configuration case】

Case 1: View all ONT multicast profile information on the OLT.

```
OLT(config)# show ont-igmpprofile gpon all
------------------------------------------- ------------------------------------
Profile-ID Profile-name Binding times
------------------------------------------- -------------------------
1 igmpprofile_1 0
2 igmpprofile_2 0
------------------------------------------- ------------------------------------
Total: 2

OLT(config)#
```

27.12.18.Deleting the ONT Multicast Profile on the OLT

Command syntax	OLT(config)# **no ont-igmpprofile gpon { profile-id <profile-id > | profile-name <profile-name>}**
Applicable view	config view
Function Description	This command is used to delete the ONT multicast profile created in the system.
profile-id <profile-id	Delete the multicast template with the specified id .
profile-name <profile-name>	Deletes the multicast template with the specified name .

【Configuration case】

Case 1: Delete ONT Multicast Profile 2 on the OLT .

```
OLT(config)# no ont-igmpprofile gpon profile-id 2
OLT(config)#
```

27.13.ONT TR069 Template Configuration

27.13.1.Create a new ONT TR069 template

Command syntax	OLT(config)# **ont - tr069- profile {profile-id <profile-id> |profile-name <profile-name>}**
Applicable view	config view
Function Description	tr069- profile command is used to add the TR069 profile of the ONT . The ONT TR069 template stores the basic attribute configuration data of the ONT TR069 interface, such as the user name, password, and port of the ACS and CPE .
<profile-id>	ONT TR069 template ID, uniquely identifies a template, the value range: 1-32. When not specified, the system automatically assigns the smallest free template number .
<profile-name>	ONT TR069 template name, the length supports 1-32 characters. The default template name is tr069profile _x, where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter ONT TR069 template with ID 1 .

```
OLT(config)# ont-tr069-profile profile-id 1
```

```
OLT(config-ont-tr069profile-1)#
```

27.13.2.Configure the ACS password in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **acs-password <password>**
Applicable view	TR069 Template View
Function Description	This command is used to set the ACS password of the ONT TR069 template
< password >	Password content, length 1-25

【Configuration case】

Case 1: Configure the ACS password of the ONT TR069 template as 123456

```
OLT(config-ont-tr069profile-1)# acs-password 123456
OLT(config-ont-tr069profile-1)#
```

27.13.3.Configure the ACS port number in the ONT TR069 profile

Command syntax	OLT(config-ont-tr069profile-1)# **acs-port <port>**
Applicable view	TR069 Template View
Function Description	This command is used to set the ACS port number of the ONT TR069 template
< port >	Port number, the value is 0-65535

【Configuration case】

Case 1: Configure the ACS port number of the ONT TR069 template as 12345

```
OLT(config-ont-tr069profile-1)# acs-port 12345
OLT(config-ont-tr069profile-1)#
```

27.13.4.Configure the URL address of the ACS in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **acs-url <url address>**

Applicable view	TR069 Template View
Function Description	This command is used to set the URL address of the ACS of the ONT TR069 template
< url address >	URL address of the ACS server, length 1-25

【Configuration case】

Case 1: Configure the ACS server URL address of the ONT TR069 template as abcd

```
OLT(config-ont-tr069profile-1)# acs- url abcd
OLT(config-ont-tr069profile-1)#
```

27.13.5.Configure the user name of the ACS in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **acs-username <USERNAME>**
Applicable view	TR069 Template View
Function Description	This command is used to set the username of the ACS of the ONT TR069 template
< USERNAME >	ACS username, length 1-50

【Configuration case】

Case 1: Configure the ACS user name of the ONT TR069 template as abcd

```
OLT(config-ont-tr069profile-1)# acs-username abcd
OLT(config-ont-tr069profile-1)#
```

27.13.6.Configure the authentication domain of the ACS in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **auth-realm <REALM>**
Applicable view	TR069 Template View
Function Description	This command is used to set the authentication domain of the ACS of the ONT TR069 template
< REALM >	Authentication field value, length 1-24

【Configuration case】

Case 1: Configure the ACS authentication domain of the ONT TR069 template as abcd

```
OLT(config-ont-tr069profile-1)# auth-realm abcd
OLT(config-ont-tr069profile-1)#
```

27.13.7.Enable or disable ACS connection request authentication in ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **connect-request-auth {enable|disable}**
Applicable view	TR069 Template View
Function Description	This command is used to enable or disable ACS connection request authentication for ONT TR069 template
enable|disable	disable: Disable the ACS connection request authentication on function enable: Enable ACS connection request authentication function

【Configuration case】

Case 1: Disable ACS connection request authentication for ONT TR069 template

```
OLT(config-ont-tr069profile-1)# connect-request-auth disable
OLT(config-ont-tr069profile-1)#
```

27.13.8.Configure the CPE password in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **cpe-password <password>**
Applicable view	TR069 Template View
Function Description	This command is used to set the CPE password of the ONT TR069 template
< password >	Password content, length 1-25

【Configuration case】

Case 1: Configure the CPE password of the ONT TR069 template as 123456

```
OLT(config-ont-tr069profile-1)# cpe -password 123456
OLT(config-ont-tr069profile-1)#
```

27.13.9.Configure the CPE port number in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **cpe-port <port>**
Applicable view	TR069 Template View
Function Description	This command is used to set the CPE port of the ONT TR069 template
< port >	Port number, the value is 0-65535, 0 means the default value

【Configuration case】

Case 1: Configure the CPE port number of the ONT TR069 template as 12345

```
OLT(config-ont-tr069profile-1)# cpe -port 12345
OLT(config-ont-tr069profile-1)#
```

27.13.10.Configure the CPE user name in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **cpe-username <USERNAME>**
Applicable view	TR069 Template View
Function Description	This command is used to set the CPE user name of the ONT TR069 template
< USERNAME >	CPE username, length 1-50

【Configuration case】

Case 1: Configure the CPE user name of the ONT TR069 template as abcd

```
OLT(config-ont-tr069profile-1)# cpe -username abcd
```

27.13.11.Configuring the Notification Interval in the ONT TR069 Profile

Command syntax	OLT(config-ont-tr069profile-1)# **inform {enable|disable |interval<time> }**
Applicable view	TR069 Template View
Function	This command is used to set the notification interval of ONT TR069

Description	template
enable|disable|interval	disable: disable the quick leave function enable: Enable quick leave function Interval: Set the notification interval, the value is 1-4294967295, in seconds

【Configuration case】

Case 1: Disable the notification function of the ONT TR069 template

```
OLT(config-ont-tr069profile-1)# inform disable
```

27.13.12.Delete the configuration parameters in the ONT TR069 template

Command syntax	OLT(config-ont-tr069profile-1)# **no {acs-password|acs-url|acs-username|auth-realm|cpe-password|cpe-username}**
Applicable view	TR069 Template View
Function Description	This command is used to delete various parameter configurations in the TR069 template

【Configuration case】

Case 1: Delete the password of the ACS server

```
OLT(config-ont-tr069profile-1)# no acs-password
```

27.14.Optical Module Alarm Profile Configuration

27.14.1.Create a new optical module alarm template

Command syntax	OLT(config)# **optical-alarm-profile {profile-id <profile-id>|profile-name <profile-name>}**
Applicable view	config view
Function Description	Optical-alarm-profile command is used to add an optical module alarm profile. The optical module alarm profile is configured with thresholds for many optical modules, which are used to monitor the values of optical modules.
<profile-id>	Optical module template ID, which uniquely identifies a template. The value range is 1-256. When not specified, the system

	automatically assigns the smallest free template number .
<profile-name>	ONT TR069 template name, the length supports 1-32 characters. The default template name is optical_alarm_profile_x , where "x" is replaced with the actual template number.

【Configuration case】

Case 1: Create and enter the optical module alarm profile with ID 1 .

```
OLT(config)# optical-alarm-profile profile-id 1
OLT(config-ont-tr069profile-1)#
```

27.14.2.Configure Optical Transceiver TX Bias Current

Command syntax	OLT(config)# **bias-current {alarm-lower <THRESHOLD> |alarm-upper <THRESHOLD> |warning-lower <THRESHOLD> | warning -upper <THRESHOLD>}**
Applicable view	optical-alarm-profile view
Function Description	bias-current command is used to configure the warning threshold and warning threshold of the TX bias current of the optical transceiver
alarm-lower **alarm-upper** **warning-lower** **warning -upper**	alarm-lower: bias current threshold alarm lower limit alarm-upper: Bias current threshold alarm upper limit warning-lower: bias current threshold warning lower limit warning-upper: Bias current threshold warning upper limit
<THRESHOLD>	Alarm threshold and alarm threshold, value <1-10000>, unit mA

【Configuration case】

Case 1: Configure the optical transceiver to have a bias current warning lower limit of 500

```
OLT(config-optical-alarm-profile-1)# bias-current warning-upper 500
OLT(config-optical-alarm-profile-1)#
```

28.ONT management

28.1.ONT authentication configuration

28.1.1.Enable or disable the automatic discovery function of the ONT

Command	OLT(config-interface- gpon -0/0)# **ont autofind {<port-id> | all }**

syntax	**<switch>**
Applicable view	gpon interface view
Function Description	Enable or disable the ONT auto-discovery function. Unregistered ONTs will be displayed on the OLT only after the ONT auto-discovery function is enabled.
<port-id>	Specifies which PON port of the OLT enables the automatic discovery function of the ONT. The value ranges from 1 to 16.
all	Enable the ONT auto-discovery function of all PON ports on the OLT
< switch >	ONT auto-discovery function Disable : Disable the ONT auto-discovery function

【Configuration case】

Case 1: Enable the ONT automatic discovery function of the PON1 port on the OLT

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

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

28.1.2.The ONT automatically discovers the aging time configuration

Command syntax	OLT(config)# **ont autofind { no-aging | timeout < Aging - time >}**
Applicable view	config view
Function Description	This command is used to set the aging time of ONT automatic discovery.
no-aging	Set the aging time of ONT auto-discovery to no aging
< Aging - time >	Set the aging time for ONT auto-discovery, the value range: 100-300, the unit: seconds, the default is: 100 seconds, you can use show ont autofind time to check the configured ONT auto-aging time.

【Configuration case】

Case 1: Configure the aging time of the ONT's automatic discovery to 200 seconds

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

OLT(config)#
```

28.1.3.Authenticate the ONT and the binding template through the ONT's SN

Command syntax	OLT(config-interface- gpon -0/0)# **ont add <port-id> <on t -id> s n-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 }**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile based on the ONT's SN. The OLT will determine whether the SN reported by the ONT is consistent with the configuration. If the SN is the same, the authentication is passed and the ONT goes online normally.
<port-id>	Specifies the PON port number where the newly added ONT resides. Values are 1-16
<ONT-id>	Specifies the ONT number. 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, in the format: < Length 12, 13, 16>(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)
<profile-id>	ID number of the ONT template, ranging from 0 to 512
<profile - name>	The name of the ONT template, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications
once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will be deleted

【Configuration case】

Case 1: Authenticate an ONT with a number of 9 and sn is an ONT of xpon12345678 at port 1 of pon and bind ONT line profile 15 and ONT service profile 15

```
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)#
```

28.1.4.Authenticate the ONT and the binding template through the

password of the ONT's SN

Command syntax	OLT(config-interface- gpon -0/0)# **ont add <port-id> <on t -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 }**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile based on the ONT's SN Password. The OLT will determine whether the SN Password reported by the ONT is consistent with the configuration. If they are consistent, the authentication is passed and the ONT goes online normally.
<port-id>	Specifies the PON port number where the newly added ONT resides. Values are 1-16
<ONT-id>	Specifies the ONT number. Value is 1-128
< PASSWOED -VALUE>	Password of the SN of the ONT to be authenticated, in the format of 10-bit 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, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications
once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will be deleted

【Configuration case】

Case 1: Authenticate an ONT number 9 at port 1 of pon , the password of sn is ONT of 12345678 , and bind ONT line profile 15 and ONT service profile 15

```
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)#

28.1.5.Authenticate ONT and binding template through ONT's SN+ Password

Command syntax	OLT(config-interface- gpon -0/0)# **ont add <port-id> <on t -id> s n-auth <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 }**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile based on the ONT's SN+Password. The OLT will determine whether the sn and Password reported by the ONT are consistent with the configuration. If they are consistent, the authentication is passed and the ONT goes online normally.
<port-id>	Specifies the PON port number where the newly added ONT resides. Values are 1-16
<ONT-id>	Specifies the ONT number. 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, in the format: < Length 12, 13, 16>(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)
< PASSWOED -VALUE>	Password of the SN of the ONT to be authenticated, in the format of 10-bit 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, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications
once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will be deleted

【Configuration case】

Case 1: An ont number 9 is authenticated at port 1 , the authenticated sn is xpon12345678, the authenticated password is the ONT of 12345678 , and the ONT line profile 15 and ONT service profile 15 are bound

```
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)#
```

28.1.6.Authenticate ONT and binding template through ONT's Loid

Command syntax	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 }**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile based on the ONT's loid. The OLT will determine whether the loid reported by the ONT is consistent with the configuration. If it is consistent, the authentication is passed and the ONT goes online normally.
<port-id>	Specifies the PON port number where the newly added ONT resides. Values are 1-16
<ONT-id>	Specifies the ONT number. The value is 1-128
<LOID-VALUE>	The loid of the ONT to be authenticated, 1 to 24 characters are supported .
<profile-id>	ID number of the ONT template, ranging from 0 to 512
<profile - name>	The name of the ONT template, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications
once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will

	be deleted

【Configuration case】

Authenticate an ONT with an ONT number of 10 and a Loid of 12345678 on pon 1 and bind the ONT line profile 5 and ONT service profile 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)#
```

28.1.7.Authenticate ONT and bind template through ONT's Loid+ password

Command syntax	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}**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT and bind the ONT line profile and service profile based on the ONT's loid+password. The OLT will determine whether the loid and password reported by the ONT are consistent with the configuration. If they are consistent, the authentication is passed and the ONT goes online normally.
<port-id>	Specifies the PON port number where the newly added ONT resides. Values are 1-16
<ONT-id>	Specifies the ONT number. The value is 1-128
<LOID-VALUE>	The loid of the ONT to be authenticated, 1 to 24 characters are supported .
<PASSWORD-VALUE>	Password of the ONT to be authenticated , 1-12 characters are supported
<profile-id>	ID number of the ONT template, ranging from 0 to 512
<profile -name>	The name of the ONT template, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications

once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will be deleted

【Configuration case】

Authenticate an ONT whose number is 10, Loid is test, and password is test at port 1 pon 1, and bind ONT line profile 5 and ONT service profile 5

```
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)#
```

28.1.8.Configuring ONT Authentication Mode

Command syntax	OLT(config-interface-gpon-0/0)# **ont a uthmode (<port-id> |all) (auto |manual |aaa) { to <auth-mode> }**
Applicable view	gpon interface view
Function Description	This command is used to configure the ONT authentication mode under the specified PON port.
<port-id>	Specifies the PON port number for which ONT authentication mode needs to be configured . Values are 1-16
auto	Configure the automatic authentication mode for the specified PON port
manual	Configure the manual authentication mode for the specified PON port
aaa	aaa authentication mode for the specified PON port
to <auth-mode>	After configuring the ONT authentication mode, which authentication mode is used to record, there are the following authentication modes: 1- loose-auth 2- loid-password-auth 3- password-auth 4- sn-auth 5- sn-password-auth

【Configuration case】

Case 1: Configure the ONT authentication mode of the pon 1 port to be automatic authentication

```
OLT(config-interface-gpon-0/0)# ont authmode 1 auto

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

28.1.9.Batch authentication of ONTs in the discovery state

Command syntax	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 }**
Applicable view	gpon interface view
Function Description	This command is used to authenticate the ONT in the discovery state under the specified PON port. If the ONT auto-discovery switch is enabled on the OLT, after an ONT is added, the OLT will obtain the ONT's registration information, and the ONT is in the auto-discovery state. After this command is used to confirm the ONT, the ONT enters the normal working state, and the related services can be configured on the ONT. Can be used to register ONTs in batches.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
all	Batch authentication of all discovered ONTs under the PON port.
loose-auth	Loid authentication method
< LOID-VALUE >	The loid value that needs to be entered in the loid authentication mode, with a length of 1-24 characters
loid-password-auth	Password authentication method using loid+loid
password-auth	Password authentication using sn
<	The password value that needs to be entered in password

PASSWORD-VALUE >	authentication mode, the length is 1-10 characters
sn-auth	Using sn authentication
<SN-VALUE>	The SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, in the 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, 1-16 characters are supported
always	Always : ONU can go online at any time with unlimited number of authentications
once-again < Aging time value>	once-aging : The authentication can only go online once within the specified time, and the ONU will be cleared once it is offline.
once-no-aging	once-no-aging : There is no restriction on when to authenticate, but after the authentication goes online once, if the ONU is offline, it will be deleted

【Configuration case】

all the ONTs in the discovery state under the pon 1 port according to the sn method and bind the line profile and business

business template 10

```
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)#
```

Case 2: Authenticate the ONT that is in the discovery state and the loid is test under port pon 1, and bind the line profile and service profile 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)#
```

28.1.10.Canceling an ONT in auto-discovery state

Command syntax	OLT(config-interface-gpon-0/0)# **ont cancel <port-id> {all | sn < SN-VALUE >}**
Applicable view	gpon interface view
Function Description	This command is used to cancel an ONT in auto-discovery state. If the ONT auto-discovery switch is enabled on the OLT, after an ONT is added, the OLT will obtain the ONT's registration information, and the ONT is in the auto-discovery state. Use this command to clear the registration information saved on the OLT by the ONT and release the storage space resources of the registration information.
<port-id>	Specifies which PON port of the OLT needs to cancel the ONT auto-discovery state , ranging from 1 to 16
< SN-VALUE >	The sn of the ONT whose auto-discovery status is to be canceled. The string that can be entered must be 12, 13, or 16 characters long, and the format is XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX .
all	Cancel all automatically discovered ONTs under a GPON port. Use this parameter when deleting ONTs in batches.

【Configuration case】

Case 1: Cancel the ONT whose sn is test under PON 1 port and is in auto-discovery state

```
OLT(config-interface-gpon-0/0)# ont cancel 1 test

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

28.1.11.Delete an ONT certified by the OLT

Command syntax	OLT(config-interface-gpon-0/0)# **ont delete <port-id> {< ONT-id > | all}**
Applicable view	gpon interface view
Function Description	This command is used to delete an authenticated ONT. After this command is executed successfully, the authenticated ONT will go offline .
<port-id>	Delete the authenticated ONT under the specified PON port
< ONT-id >	Delete the authenticated ONT with the specified ID under the specified PON port
all	Delete all authenticated ONTs under a specified PON port in batches

【Configuration case】

Delete the authenticated ONT 1 under the PON 2 port

```
OLT(config-interface-gpon-0/0)# ont delete 2 1

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

28.1.12.Blacklist Authentication ONT (Configuration and View)

Command syntax	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**
Applicable view	gpon interface view
Function Description	This command is used to add the specified ONT to the blacklist, and then make the ONT authentication of the blacklist unsuccessful.
<switch>	Enable : Enable blacklist authentication ONT Disable : Disable the blacklist authentication ONT
sn < SN-VALUE >	Add the specified ONT sn to the blacklist, the length is 12 characters, and the format is XXXXXXXXXXXX
mask < 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 of the ONT to be removed from the blacklist. You can use **show ont blacklist** to check the id of the ONT in the blacklist.

【Configuration case】

Case 1: Add the ONT whose SN is test12345678 to the blacklist, configure 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)#
```

28.1.13.Configure the SN sequence number of the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont enable|disable <port-ID> < *SN-VALUE* >**
Applicable view	gpon view
Function Description	Configure the SN serial number of the ONU

<port-ID>	The PON port number to be set , the value range is 1-8 .
< SN-VALUE >	The sequence number of the ONT SN to be set, with a length of 12, 13 or 16.

【Configuration case】

Case 1: Configure the SN serial number of the ONU under the PON1 port to be 111111111111

```
OLT(config-interface-gpon-0/0)# ont disable 1 111111111111
The ONU does not exist in the authentication table

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

28.1.14.Re-register ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont re -register <port-id> {< ONT-id > | all}**
Applicable view	gpon interface view
Function Description	This command is used to re-register the ONT. After this command is executed successfully, the ONT goes offline and re-reports the registration information .
<port-id>	Re-register the ONT under the specified PON port
< ONT-id >	Re-register the ONT with the specified ID under the specified PON port
all	Re-register all ONTs under a specified PON port in batches

【Configuration case】

Re-register ONT 1 under PON 2

```
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
```

28.1.15.Modify the authentication method of the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont modify <port-id> < ONT-id > auth-type { loid -auth { < LOID-VALUE > | password-auth <PASSOERD-VALUE> } | password-auth < PASSWORD-VALUE >} | {sn-auth < SN-VALUE > | password-auth < PASSWORD-VALUE > }}**

Applicable view	gpon interface view
Function Description	This command is used to modify the authentication mode of a registered ONT.
<port-id>	Specifies the PON port number where the ONT is located. Values are 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 authentication method of the registered ONT to sn and enter the sn value to be authenticated . The length supports 12, 13, and 13, and the format is XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX
sn-auth < SN-VALUE > | password-auth < PASSWORD-VALUE >	Modify the authentication method of the registered ONT to the password of sn+sn and enter the sn value and the password value under sn. The length of sn supports 12, 13, and 13, and the format is XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX, and the value range of password is 1- 10 characters
password-auth < PASSWORD-VALUE >	Modify the authentication mode of the registered ONT to password under sn and enter the password value under sn. The password range is 1-10 characters.
loid -auth < LOID -VALUE >	Modify the authentication method of the registered ONT to loid and enter the loid value to be authenticated . The value ranges from 1 to 24 characters.
loid -auth { < LOID-VALUE > |password-auth <PASSOERD-VALUE>	Modify the authentication method of the registered ONT to the password of loid+loid and enter the loid value and the password value under the loid. The loid value range is 1-24 characters, and the password value range is 1-12 characters .

【Configuration case】

Case 1: Modify the authentication method of the first ONT under PON 1 to be sn authentication and the sn to be xpon12345678

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type sn-auth xpon12345678

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

Case 2 : Modify the authentication method of the first ONT under PON 1 to be loid authentication and the loid to be test

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 auth-type loid-auth test

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

Case 3 : Modify the authentication method of the first ONT under PON 1 to sn + password authentication and the loid and password to be 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)#
```

28.1.16.lines and service profiles bound to an ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont modify <port-id> < ONT-id > {{ ont -lineprofile-id <profile-id> | ont-lineprofile-name <profile-id>} | {ont -srvprofile-id <profile-name>| ont-srvprofile-name <profile-name>}}**
Applicable view	gpon interface view
Function Description	This command is used to modify the line profile and service profile bound to the ONT under the PON port.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	Specifies the ONT id of the line profile and service profile to be repaired, ranging from 1 to 128
<profile-id>	the line template and service template , ranging from 0 to 512
<profile-name>	The name of the line template and service template, the value is 1-16 characters

【Configuration case】

Case 1: Change the line profile of ONT 1 under PON 1 to 5

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 ont-lineprofile-id 5

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

Case 2 : Modify the line profile and service profile of ONT 1 under PON 1 to 5 and 5 respectively

```
OLT(config-interface-gpon-0/0)# ont modify 1 1 ont-lineprofile-id 5 ont-srvprofile-id 5

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

28.1.17.View auto-discovered ONTs

Command syntax	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**
Applicable view	config view or gpon interface view
Function Description	This command is used to view the unregistered ONTs automatically discovered on the OLT.
<port-id>	Check the PON port number where the ONT is automatically discovered. Values are 1-16
all | brief	View all auto-discovered ONTs under the specified PON port. If you add a brief, you can also see the information such as the loid, model, and auto-discovery aging time displayed by the auto-discovered ONT.
sn < SN-VALUE >	View automatically discovered ONTs based on the specified SN
show ont autofind all | brief	View all the automatically discovered ONTs on the OLT, and if you add the brief, you can also see the information such as the loid, model, and auto-discovery aging time displayed by the auto-discovered ONT.
time	View auto-discovered on OLT but not registered What is the default auto-aging time of the ONT

【Configuration case】

Case 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)#
```

Case 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)#
```

28.1.18.View ONT registration information

Command syntax	OLT(config-interface-gpon-0/0)# **show ont info <port-id> { < ONT-id > | all}** OLT(config-interface-gpon-0/0)# **show ont info { by-desc < DESCRIPTION > | by-loid < LOID-VALUE > | by-password < PASSWORD-VALUE > | by-sn < SN-VALUE >}**
Applicable view	config view or gpon interface view
Function Description	This command is used to view the status of the ONT, including the detailed registration status of the ONT, the template information bound to the ONT, and the port configuration of the ONT. 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 the related information of the ONT T-CONT). Port: The number of the ONT's PON port on the OLT. ONT ID: The ONT number set by the user. SN : The sn of the ONT . Control flag: active : The ONT is in an active state. The ONT needs to be activated on the OLT first, and the ONT is allowed to go online only when the ONT is in the activated state. deactive : The ONT is in a deactivated state. When the ONT is in the deactivated state, use the ont activate command to activate the ONT Run state: The running flag of the ONT, which identifies the current running state of the ONT. It includes two states, "online" and "offline". When the ONT is normally online, it is "online".

	Config state: The configuration state. After the ONT goes online normally, this state indicates whether the ONT is configured to be delivered, restored, and the completion of configuration delivery and restoration. There are three states including "initial", "failed" and "Success". initial: The ONT is in the process of configuration delivery or configuration restoration. failed: Failed to deliver or restore the ONT configuration. Success: The ONT configuration is delivered or restored successfully.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	Specify the detailed information of the ONT id to be viewed. When the viewed information is specified to the ONT id, you can see the detailed registration status of the ONT, the template information bound to the ONT, the port configuration information of the ONT, etc. The value ranges from 1 to 128 .
all	View the registration status of all registered ONUs on the specified PON port, mainly 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, supporting 1-64 characters
by-loid < LOID-VALUE >	View 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, which supports 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, 16, the format is: XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)

【Configuration case】

Case 1: Check the registration status of all ONTs on the PON2 port

```
OLT(config-interface-gpon-0/0)# show ont info 2 all
------------------------------------------------ ----------------------------------------
F/SP 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, deactive: 0, failed: 1

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

Case 2 : View the 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 POLICY
---------------------------------------------- ------------------------
ETH 1 Translation 1 101 - 101 - - -
ETH 2 Translation 1 101 - 101 - - -
ETH 3 Translation 1 101 - 101 - - -
ETH 4 Translation 1 101 - 101 - - -
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-interface-gpon-0/0)#
```

28.2.ONT policy authentication and batch delivery configuration management

28.2.1.Enabling or disabling the ONT policy authentication function in global mode

Command syntax	OLT(config)# **ont policy -auth < switch>**
Applicable view	config view

Function Description	This command is used to globally enable or disable the ONT policy authentication function.
<switch>	enable : Globally enable ONT policy authentication mode disable : Disable the ONT policy authentication method globally

【Configuration case】

ONT policy authentication function in global mode

```
OLT(config)# ont policy-auth enable

OLT(config)#
```

28.2.2.Enabling or disabling the ONT policy authentication function on the PON port

Command syntax	OLT(config-interface-gpon-0/0)# **ont policy -a uth {<port-id> | all} <switch>**
Applicable view	gpon interface view
Function Description	This command is used to enable or disable the policy-based authentication function of the ONT under the specified PON port.
<port-id>	Specifies the ONT under which PON supports policy authentication . The value ranges from 1 to 16 .
all	Enable or disable policy authentication for all PON ports on the OLT
<switch>	enable : Enable ONT policy authentication mode disable : disable ONT policy authentication mode

【Configuration case】

Case 1: Enable the ONT policy authentication method under the pon 1 port

```
OLT(config-interface-gpon-0/0)# ont policy-auth 1 enable

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

28.2.3.Configuring the ONT Policy Authentication Mode

Command syntax	OLT(config)# **ont policy-auth mode to { loid-auth | loid-password-auth | password-auth | sn-auth | sn-password-auth }**
Applicable view	config view
Function	This command is used to configure the ONT policy authentication

Description	mode.
<port-id>	Specifies the ONT under which PON supports policy authentication . The value ranges from 1 to 16 .
{ loid-auth | loid-password-auth | password-auth | sn-auth | sn-password-auth }	The ONT registration method in the ONT policy authentication is configured as loid, loid+password , pasword under sn, sn, or password under sn+sn.

【Configuration case】

Case 1: Configure the policy authentication mode of the ONT as loid-password-auth .

```
OLT(config)# ont policy-auth mode to loid-password-auth

OLT(config)#
```

28.2.4.Configuring the Matching Mode of Batch Delivery Configurations in ONT Policy Authentication

Command syntax	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 > }{ ont-wanprofile-id < Profile - ID >| ont-wanprofile-name < Profile - name > } { scope PORT-LIST }**
Applicable view	config view
Function Description	This command is used to configure the configuration method in batches in ONT policy authentication, mainly for batch delivery of line template and service template configuration.
all	Assign line profile and service profile configuration to all ONTs in batches
{ equid-auth < EQUIPMENT-ID >	The configuration of line profiles and service profiles can be delivered in batches according to the model matching the ONT. The model number supports 1-20 characters.
equid-swver-auth <	The line template and service template configurations are delivered in batches according to the matching ONT model + software version

EQUIPMENT-ID > < SOFTWARE-VER >	number. The model number supports 1-20 characters, and the software version number supports 1-14 characters.
vendor-auth < VENDOR-ID >	The configuration of line templates and service templates can be delivered in batches according to the vendor ID matching the ONT, and the maximum length is 4 characters.
<profile-id>	ID number of the ONT template to be delivered in batches, the value range is 0-512
<profile - name>	The name of the ONT template to be distributed in batches, 1-16 characters are supported
scope PORT-LIST	Specifies the ONT under which PON supports policy authentication batch configuration , the value range is 1-16

【Configuration case】

Case 1: Set the matching ONT manufacturer ID to XPON to deliver line template and service template id 5 in batches.

```
OLT(config)# ont policy-auth policy vendor-auth XPON ont-lineprofile-id 5 ont-srvprofile-id 5

OLT(config)#
```

28.2.5.Viewing the policy authentication configuration information of the ONT

Command syntax	OLT(config)# **show ont policy-auth**
Applicable view	config view
Function Description	This command is used to view the ONT policy authentication configuration information on the OLT.

【Configuration case】

Case 1: View the policy authentication configuration information of the ONT on the OLT.

```
OLT(config)# show ont policy-auth
---------------------------------------------- ---------------------------------------
Autoauth Switch : enable
Autoauth Mode : equid-auth
Target auth Mode : sn-auth
Validity Mode : always-on
```

```
---------------------------------------------- ------------------------
There is no rule exist!
---------------------------------------------- ------------------------------------

OLT(config)#
```

28.3.ONT Basic Management

28.3.1.Add description information to ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont description <port-id> < ONT-id > < description >**
Applicable view	gpon interface view
Function Description	This command is used to add descriptive information to the ONT to facilitate differentiation and management .
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	The ONT id for which description information is to be added, in the range of 1-128 .
< description >	Description information to be added, supports 1-64 characters

【Configuration case】

Case 1: Add description information as test to ONT 1 under PON 1 port

```
OLT(config-interface-gpon-0/0)# ont description 1 1 test

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

28.3.2.Activate ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont activate <port-id> {< ONT-id > | all}**
Applicable view	gpon interface view
Function Description	This command is used to activate a deactivated ONT. The ONT can only work properly when it is in the active state. When the ONT needs to work normally, use this command to activate the ONT. By default, the ONT is active.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16

< ONT-id > | all	ONT -id: The id of the ONT to be activated, ranging from 1 to 128 . a ll: activate all ONTs

【Configuration case】

Case 1: Activate the first ONT under PON port 1

```
OLT(config-interface-gpon-0/0)# ont activate 1 1

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

28.3.3.Deactivate ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont de activate <port-id> {< ONT-id > | all}**
Applicable view	gpon interface view
Function Description	This command is used to deactivate the ONT. When the ONT is not required to work normally, use this command to activate the ONT. By default, the ONT is active.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id > | all	ONT -id: The id of the ONT to be deactivated, ranging from 1 to 128 . a ll: All ONTs to be deactivated

【Configuration case】

Case 1: Deactivate the first ONT under PON port 1

```
OLT(config-interface-gpon-0/0)# ont deactivate 1 1

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

28.3.4.Restart the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont reboot <port-id> {< ONT-id > |all}**
Applicable view	gpon interface view
Function Description	This command is used to restart the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >| all	ONT - id : ONT id of the ONT to be restarted, ranging from 1 to 128

	all : Restart all ONTs under the PON port

【Configuration case】

Case 1: Restart ONT 1 with PON 1 port

```
OLT(config-interface-gpon-0/0)# ont reboot 1 1

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

28.3.5.ONT management ip (iphost) function configuration

Command syntax	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 >}}**
Applicable view	gpon interface view
Function Description	This command is used to configure the iphost function of the ONT, including management IP address, subnet mask, gateway, management vlan, priority, etc.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT - id : ONT id of the ONT to be configured, ranging from 1 to 128
ip-index < IP - host - index >	Configure IP Host interface index, value range: 0-1
dhcp	Configure the ONT to obtain the IP address dynamically through DHCP.
vlan < VLAN-ID >	Configure the management VLAN of the ONT. The value ranges from 1 to 4094.
priority < VLAN - priority >	Configure the priority of the ONT management VLAN, which takes effect on the ONT. The larger the value of the priority, 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 of XXXX

mask < ONT - subnet - mask >	Configure the address mask of the static IP address, the format is XXXX
gateway < ONT gateway >	Configure the IP address of the gateway of the ONT management network, which must be in the same network segment as the configured static IP address, in the format of XXXX
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 its domain name information through the IP address, the format is XXXX
slave-dns < ONT - slave - DNS >	Configure the IP address of the secondary DNS server, the format is XXXX

【Configuration case】

the static management IP of ONT 1 of PON1 port as 192.168.101.1, subnet mask as 255.255.255.0, gateway IP as 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)#
```

Case 2: Configure the management IP address of ONT 2 of PON1 port 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)#
```

28.3.6.Delete the ONT management ip (iphost) configuration

Command syntax	OLT(config-interface-gpon-0/0)# **no ont ipconfig <port-id> < ONT-id > | ip-index < IP - host - index >**
Applicable view	gpon interface view
Function Description	This command is used to delete the iphost function of the ONT, including management IP address, subnet mask, gateway, management vlan, priority, etc.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT - id : ONT id of the ONT whose management ip is to be deleted, ranging from 1 to 128
ip-index < IP - host - index >	Specifies the index of the IP Host interface to be deleted, the value range: 0-1

【Configuration case】

Case 1: Delete the management IP of ONT 1 of PON1 port

```
OLT(config-interface-gpon-0/0)# no ont ipconfig 1 1

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

28.3.7.View ONT management ip (iphost) configuration

Command syntax	OLT(config-interface-gpon-0/0)# **show ont ipconfig <port-id> < ONT-id > | ip-index < IP - host - index >**
Applicable view	gpon interface view
Function Description	This command is used to view the iphost configuration and iphost status of the ONT
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT - id : the ONT id of the ONT whose management ip is to be viewed, ranging from 1 to 128

【Configuration case】

the management IP of ONT 1 of PON3 port

```
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)#
```

28.3.8.automatic aging switch for ONT registration

Command syntax	OLT(config-interface-gpon-0/0)# **ont auto -aging switch (<port-ID>|all) (off|on)**

Applicable view	gpon view
Function Description	automatic aging switch for ONT registration .
<port-ID>	to be modified , the value range is 1-16.
off|on	Off: off on: on

【Configuration case】

Case 1: Enable the automatic ONU registration function of all PON ports, and disable the ONU automatic registration function under pon3

```
OLT(config-interface-gpon-0/0)# ont auto-aging switch all on
Number of Ports that can be set: 8, success: 8

OLT(config-interface-gpon-0/0)# ont auto-aging s
scan-interval switch

OLT(config-interface-gpon-0/0)# ont auto-aging switch 3 off
Set Pon 3 Success

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

28.3.9.automatic aging time for ONT registration

Command syntax	OLT(config-interface-gpon-0/0)# **ont auto -aging time (** *interval* **| default)**
Applicable view	gpon view
Function Description	automatic aging time for ONT registration .
interval	Set the ONT automatic aging interval, the value range is 1-180, the unit is days
default	Time default time is 30 days

【Configuration case】

Case 1: Configure the automatic aging time of the ONT to be 20 days

```
OLT(config-interface-gpon-0/0)# ont auto-aging time 20

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

28.3.10.the aging time configuration of ONU

Command syntax	OLT(config-interface-gpon-0/0)# **show ont auto-aging info**
Applicable view	gpon view
Function Description	This command is used to view the aging time configuration of the ONU .

【Configuration case】

Case 1: Check the aging time configuration of the ONU .

```
OLT(config-interface-gpon-0/0)# show ont auto-aging info
------------------------------------------------ ------------------------------------
F/S Port Switch Interval(Day) Scan interval(Day)
------------------------------------------------ -------------------------
0/0 1 on 20 7
0/0 2 on 20 7
0/0 3 off 20 7
0/0 4 on 20 7
0/0 5 on 20 7
0/0 6 on 20 7
0/0 7 on 20 7
0/0 8 on 20 7
------------------------------------------------ ------------------------------------

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

28.3.11.the scan interval for ONT registration

Command syntax	OLT(config-interface-gpon-0/0)# **ont auto -aging scan-interval (*interval* | default)**
Applicable view	gpon view
Function Description	the scan interval for ONT registration .
interval	Set the ONT automatic aging interval, the value range is 1-180, the unit is days
default	**scan-interval** default time is 7 days

【Configuration case】

Case 1: Configure the ont scan interval to 20 days

```
OLT(config-interface-gpon-0/0)# ont auto-aging scan-interval 20
```

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

28.3.12.Clear offline ONU

Command syntax	OLT(config-interface-gpon-0/0)# **ont delete <port-ID> offline-list all**
Applicable view	gpon view
Function Description	Clear offline ONU
<port-ID>	to be set , the value range is 1-16.

【Configuration case】

Case 1: Clear all offline ONUs on PON1

```
OLT(config-interface-gpon-0/0)# ont delete 1 offline-list all
Total offline ONT(s): 0 delete.

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

28.3.13.Configure the ONU automatic restart time

Command syntax	OLT(config-interface-gpon-0/0)# **ont auto-reboot <port-ID> < *ONT-LIST* > time (< *Relative time* >|< *Absolute time* >) interval < *Interval* >**
Applicable view	gpon view
Function Description	This command is used to set the ONU automatic restart time .
<port-ID>	to be modified , the value range is 1-16.
< *ONT-LIST* >	Onu-list: ONU list to be modified, the value format is: 1, 3-5, 8
(< *Relative time* >|< *Absolute time* >)	Relative time: HH:MM Absolute time: YYYY/MM/DD-HH:MM:SS
< *Interval* >	Interval: The value range is 1-365, the unit is Day

【Configuration case】

Case 1: Configure the automatic restart time of the first onu under pon to be 11:22 every 15 days

```
OLT(config-interface-gpon-0/0)# ont auto-reboot 1 1 time 11:22 interval 15
```

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

28.3.14.Check ONU automatic restart time

Command syntax	OLT(config-interface-gpon-0/0)# **show ont auto-reboot (rtimer-list | atimer-list)**
Applicable view	gpon view
Function Description	This command is used to check the ONU automatic restart time .
< rtimer-list | atimer-list >	rtimer-list: Relative time, corresponding to the set Relative time atimer-list : Absolute time, corresponding to the set Absolute time

【Configuration case】

Case 1: Check ont automatic restart time

```
OLT(config-interface-gpon-0/0)# show ont auto-reboot atimer-list
------------------------------------------------ ------------------------------------
F/SP ONT-ID Time
------------------------------------------------ ------------------------------------
------------------------------------------------ -------------------------

OLT(config-interface-gpon-0/0)# show ont auto-reboot rtimer-list
------------------------------------------------ ------------------------------------
F/SP ONT Time Interval RebootTimes NextReboot
ID (day) (day)
------------------------------------------------ ------------------------------------
0/0 1 1 11:11 1 0 0
0/0 1 1 11:22 15 0 14
------------------------------------------------ -------------------------
```

28.3.15.View ONT version information

Command syntax	OLT(config-interface-gpon-0/0)# **show ont version < port-id > {<ONT -id > | all}**
Applicable view	config view or gpon interface view
Function Description	This command is used to query information about the version of the ONT . You can query the software and hardware version of the ONT , the manufacturer, and other information.
<port-id>	The number of the PON port where the ONT is located. Values are 1-16 .

<ONT-id>	ID of the ONT to be viewed. If the ONT ID is specified after the command, the detailed version information of the ONT is viewed. The value ranges from 1 to 128 .
all	View the version information of all ONTs under the specified PON port. This command mainly shows some brief version information of the ONT.

【Configuration case】

Case 1: Query the version information of the ONT numbered 2 under 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)#
```

28.3.16.View the ONT's actual capability set

Command syntax	OLT(config-interface-gpon-0/0)# **show ont capability < port-id > <ONT -id >**
Applicable view	config view or gpon interface view
Function Description	This command is used to query the actual capability set parameter information of the online ONT under the PON port, including the type and number of ONT ports.
<port-id>	The number of the PON port where the ONT is located. Values are 1-16 .
<ONT-id>	ID of the ONT to be viewed, the value range is 1-128

【Configuration case】

Case 1: Query the actual capability set information of the ONT numbered 2 under 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)#
```

28.3.17.Configuring ONT Quiet Time

Command syntax	OLT(config-interface-gpon-0/0)# **ont quiet-period** ***<time>***
Applicable view	gpon view
Function Description	Configuring ONT Quiet Time
<time>	Quiet time, the value range is 10-120, the unit is seconds

【Configuration case】

Case 1: Configure the ONT silence time to be 60 seconds

```
OLT(config-interface-gpon-0/0)# ont quiet-period 60

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

28.3.18.View ONT silent time

Command	OLT(config-interface-gpon-0/0)# **show ont quiet-period**

syntax	
Applicable view	gpon view
Function Description	View ONT silent time

【Configuration case】

Case 1: View ONT silent time

```
OLT(config-interface-gpon-0/0)# show ont quiet-period

GPON ONT quiet-period: 60s

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

28.3.19.View the ONT capability set configured by the user

Command syntax	OLT(config-interface-gpon-0/0)# **show ont config-capability < port-id > <ONT -id >**
Applicable view	config view or gpon interface view
Function Description	This command is used to query the capability set information of the ONT configured by the user . You can compare the queried ONT capability set configured by the user with the ONT 's actual capability set to check whether the capabilities match. Mainly the ONT capability set information configured in the service template.
<port-id>	The number of the PON port where the ONT is located. Values are 1-16
<ONT-id>	ID of the ONT to be viewed, the value range is 1-128

【Configuration case】

Case 1: Query the user configuration capability set of ONT number 3 under PON3 port.

```
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)#
```

28.3.20.Reasons for Failure to View ONT Configuration Status

Command syntax	OLT(config-interface-gpon-0/0)# **show ont failed-config < port-id > <ONT -id >**
Applicable view	gpon interface view
Function Description	This command is used to check the reason why the ONT configuration status fails.
<port-id>	The number of the PON port where the ONT is located. Values are 1-16
<ONT-id>	ID of the ONT to be viewed, the value range is 1-128

【Configuration case】

Case 1: The reason for the failure to query the configuration status of ONT 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)#
```

28.3.21.View the optical power information of the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **show ont optical-info < port-id > {<ONT -id > | all}**
Applicable view	gpon interface view
Function Description	This command is used to query the information about the optical power of the ONT under the PON port. Usually, 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 number of the PON port where the ONT is located. Values are 1-16 .
<ONT-id>	ID of the ONT to be viewed, the value range is 1-128
all	View the optical power information of all ONTs under a specified PON port

【Configuration case】

Case 1: Query the optical power information of the ONT numbered 3 under 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)#
```

28.3.22.Check the number of ONTs registered and online under the OLT PON port

Command syntax	OLT(config-interface-gpon-0/0)# **show ont register-statistics {< port-id > | all}**
Applicable view	config view or gpon interface view
Function Description	This command is used to query the number of ONTs registered and online under the PON port.
<port-id>	Specify which PON port to view
all	View the number of ONTs registered and online under all PON ports

【Configuration case】

Case 1: Query the number of ONTs registered and online under the PON3 port.

```
OLT(config-interface-gpon-0/0)# show ont register-statistics 3
---------------------------------------------- ------------------------------------
F/SP Autofind Authenticated Online
```

```
---------------------------------------------- ------------------------
0/0 3 0 3 1
---------------------------------------------- ------------------------------------

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

28.3.23.Configuring the Security Key Renegotiation Interval

Command syntax	OLT(config-interface-gpon-0/0)# **key-exchange-interval <1000-3600>**
Applicable view	Gpon view
Function Description	This command is used to set the renegotiation interval for security keys
<1000-3600>	The value is 1000-3600, the unit is ms

【Configuration case】

Case 1: Set the security key renegotiation interval to 1000ms

```
OLT(config-interface-gpon-0/0)# key-exchange-interval 1000
```

28.3.24.Delete the security key renegotiation interval configuration

Command syntax	OLT(config-interface-gpon-0/0)# **no key-exchange-interval**
Applicable view	Gpon view
Function Description	This command is used to delete the renegotiation interval of the security key
<1000-3600>	The value is 1000-3600, the unit is ms

【Configuration case】

Case 1: Renegotiation Interval for Deleting Security Keys

```
OLT(config-interface-gpon-0/0)# no key-exchange-interval
```

28.3.25.Query the security key renegotiation interval

Command syntax	OLT(config-interface-gpon-0/0)# **show key-exchange**

Applicable view	Gpon view
Function Description	This command is used to view the renegotiation interval configuration of the security key

【Configuration case】

Case 1: View the renegotiation interval configuration of the security key

```
OLT(config-interface-gpon-0/0)# show key-exchange
------------------------------------------------ ----------------------------------------
Control Status Interval(ms)
------------------------------------------------ ----------------------------------------
Enable 1000
------------------------------------------------ ----------------------------------------
```

28.3.26.Enable or disable the security key function

Command syntax	OLT(config-interface-gpon-0/0)# **encryption {enable|disable}**
Applicable view	Gpon view
Function Description	This command is used to enable or disable the security key function
{enable|disable }	Enable is to enable, disable is to disable

【Configuration case】

Case 1: Enabling the security key function

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

28.3.27.Check the ONT downstream data encryption switch status

Command syntax	OLT(config-interface-gpon -0/0)# **show encryption**
Applicable view	view gpon view
Function Description	ONT encryption

【Configuration case】

Case 1: Check ont encryption

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

```
GPON ONT encryption switch: Enable

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

28.3.28.View ONT health status

Command syntax	OLT(config-interface-gpon-0/0)# **show ont run-info <port-ID> (< ONT -ID>| all)**
Applicable view	gpon view
Function Description	View ont running information
<port-ID>	The port number to be viewed, in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .

【Configuration case】

Case 1: Check the running status of all onu under PON8

```
OLT(config-interface-gpon-0/0)# show ont run-info 8 all
------------------------------------------------ ---------------------------------------
F/S Port ONT-ID Run state Last down time On line time
------------------------------------------------ -------------------------
0/0 8 1 online -- 1days 1h:58m:54s
------------------------------------------------ ---------------------------------------

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

28.3.29.View the sn serial number of the automatically discovered ONU

Command syntax	OLT(config-interface-gpon-0/0)# **show ont autofind {<port-ID>} all brief sn-format hex|string**
Applicable view	gpon view
Function Description	View the sn serial number of the automatically discovered onu
<port-ID>	The port number to be viewed, in the range of 1-16.
hex|string	Hex: hexadecimal display String: String display

【Configuration case】

Case 1: Hexadecimal display of onu's sn serial number automatically found under pon1

```
OLT(config-interface-gpon-0/0)# show ont autofind 1 all brief sn-format hex
Error: The automatically found ONTs does not exist.

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

28.3.30.Check the current status of the ONU

Command syntax	OLT(config-interface-gpon-0/0)# **show ont status-count**
Applicable view	gpon view
Function Description	Check the current status of the ONU

【Configuration case】

Case 1: View the current status count of the ONU

```
OLT(config-interface-gpon-0/0)# show ont status-count
---------------------------------------------- ----------------------------------------
Total Info
---------------------------------------------- ----------------------------------------
Offline : 0
Inactive : 0
Disable : 0
Active : 1
ConfigSuccess : 1
MibReady : 1
Unknown : 0
---------------------------------------------- ----------------------------------------

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

28.3.31.View ONT rate

Command syntax	OLT(config-interface-gpon-0/0)# **show ont-rate < port- list > {< ONT - list> | all}**
Applicable view	gpon view
Function Description	View ont rate

<port- list >	Port list to be viewed , the value format is: 1, 3-5, 8
< ONT- list>	Onu-list: ONU list to be viewed , the value format is: 1, 3-5, 8

【Configuration case】

Case 1: Check the ONT rate

```
OLT(config-interface-gpon-0/0)# show ont-rate 1,2-4 all
Error: There is no ont-rate available.

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

28.3.32.View ONT port status

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port state <port-ID> < ONT-id > eth all**
Applicable view	gpon view
Function Description	View ONT port status
<port-ID>	The port number to be viewed, in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .

【Configuration case】

Case 1: Check the status of all ports of the first ONU of PON8

```
OLT(config-interface-gpon-0/0)# show ont port state 8 1 eth all
------------------------------------------------ ---------------------------------------
F/SP ONT Port Type Speed(Mbps) Duplex Link-State
------------------------------------------------ -------------------------
0/0 8 1 1 GE - - down
0/0 8 1 2 - - - -
0/0 8 1 3 - - - -
0/0 8 1 4 - - - -
------------------------------------------------ ---------------------------------------

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

28.3.33.View ONT optical backhaul information

Command syntax	OLT(config-interface-gpon-0/0)# **show ont postback optical-info <port-ID> < ONT-id >|all**
Applicable view	gpon view

Function Description	View ONT optical backhaul information
<port-ID>	The port number to be viewed, in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .

【Configuration case】

Case 1: Check the optical backhaul information of the first ONU under PON8

```
OLT(config-interface-gpon-0/0)# show ont postback optical-info 8 1
------------------------------------------------ ------------------------------------
Frame/Slot : 0/0
Port : 8
ONT ID : 1
OLT Rx ONT optical power(dBm) : -21.13
------------------------------------------------ -------------------------

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

28.3.34.View ONT Multicast

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port multicast-group < port-ID> < ONT-id > eth <ONT-port-ID>**
Applicable view	gpon view
Function Description	View ont multicast
<port-ID>	The port number to be viewed, in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .
<ONT-port-ID>	The ONT port to be viewed , in the range of 1-8.

【Configuration case】

Case 1: View the multicast group of the first port of the first ont under pon8

```
OLT(config-interface-gpon-0/0)# show ont port multicast-group 8 1 eth 1
No multicast group

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

28.4.ONT upgrade management

28.4.1.Transfer the upgrade file of the ONT to the OLT

Command syntax	OLT(config)# **load file {ftp <ip-address> < ftp - user - name > < FTP - user - password > < FILE-NAME >}	{ tftp <ip-address> < FILE-NAME >}**
Applicable view	config view
Function Description	This command is used to transfer the upgrade file of the ONT to the OLT.
ftp	Use the ftp protocol to transfer the ONT upgrade file to the OLT
<ip-address>	The ip address of the ftp or tftp server, in the format XXXX
< FTP - user - name >	The access user name of the ftp server, the value range is 1-32 characters
< FTP - user - password >	The access password of the ftp server, the value range is 1-32 characters
< FILE-NAME >	The upgrade file name of the ONT, the value range is 1-64 characters, and the extension of the ONT upgrade file needs to be added.
tftp	Use the tftp protocol to transfer the ONT upgrade file to the OLT

【Configuration case】

Case 1: Use ftp to transfer the upgrade file 111.tar of the ONT to the OLT

```
OLT(config)# load file ftp 192.168.5.111 test test 111.tar

OLT(config)#
```

28.4.2.Configure the ONT to be upgraded

Command syntax	OLT(config)# **ont load select < FrameID/SlotID > {all	<port-id>} {<ont-list>	all}**
Applicable view	config view
Function Description	This command is used to configure which ONTs need to be upgraded.
< FrameID/SlotID >	Configure the ONT upgrade under the specified board, the value is 0/0
**all	<port-id>**	Configure the ONT upgrade under the specified PON port, and the port-id value ranges from 1 to 16; all is to configure ONTs under all PONs to be upgraded

<ont-list> | all}	Configure which ONTs under the specified PON port need to be upgraded. The value of ont-list is 1-128, and the range can be specified. The format is 1-17, 128; all is to configure all ONT upgrades under the specified PON

【Configuration case】

Case 1: The ONTs with the ONT id 1-6 under the PON1 port need to be upgraded

```
OLT(config)# ont load select 0/0 1 1-6
Number of ONTs that can be added: 6, success: 0

OLT(config)
```

28.4.3.Start or stop ONT upgrade

Command syntax	OLT(config)# **ont load start < FrameID/SlotID > < FILENAME > | activemode { graceful | immediate | next-startup }** OLT(config)# **ont load stop < FrameID/SlotID >**
Applicable view	config view
Function Description	This command is used to start or stop ONT upgrade.
load start	Configure to start the ONT upgrade
< FrameID/SlotID >	Configure the ONT under the specified board to start the upgrade, the value is 0/0
< FILENAME >	Configure the ONT upgrade file name for starting the upgrade
activemode	Select the effective mode. If no input is entered, the default is to load and take effect when the ONT is restarted next time.
graceful	The ONT loading policy takes effect in the graceful reset mode. That is, after loading the file to the ONT according to the loading policy, the ONT decides whether to restart immediately according to its own settings to make the loading take effect (for example, whether there is an emergency call). The ONT waits for a maximum of four hours, after which it is forced to restart.
immediate	After the loading is complete, the ONT restarts immediately for the loading to take effect.
next-startup	After the loading is complete, the loading will take effect when the ONT restarts next time.

load stop	Delete ONT load data. Enable this parameter when you want to delete all load tasks and data on the ONT immediately.

【Configuration case】

Case 1: Start the ONT and use the upgrade file of 111.tar to upgrade. After the upgrade, restart immediately to make the upgrade take effect.

```
OLT(config)# ont load start 0/0 111.tar activemode immediate

OLT(config)
```

28.4.4.View the configuration information of ONT upgrade

Command syntax	OLT(config)# **show ont load info < FrameID/SlotID >**
Applicable view	config view
Function Description	This command is used to view the upgrade configuration information of the ONT that needs to be upgraded.
< FrameID/SlotID >	Specifies which board to view the ONT upgrade configuration information, the value is 0/0

【Configuration case】

Case 1: View the ONT upgrade information configured on the OLT 0/0 board

```
OLT(config)# show ont load info 0/0
---------------------------------------------- ----------------------------------------
File name :
Load state : stop
Active mode : immediate
---------------------------------------------- ----------------------------------------

OLT(config)#
```

28.4.5.Check the upgrade progress of the ONT

Command syntax	OLT(config)# **show ont load info < FrameID/SlotID >**
Applicable view	config view
Function Description	This command is used to view the upgrade progress of the ONT.

< FrameID/SlotID >	Specifies which board to view the ONT upgrade progress on. The value is 0/0.

【Configuration case】

Case 1: Check the ONT upgrade progress 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)#
```

28.5.ONT WAN connection management

28.5.1.Add Bridge Wan

Command syntax	OLT(config-interface-gpon -0/0)# **ont wan add *<port-id> <onu-id>* (*<1-8>|WANNAME*) ipv4 bridge (internet | other) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>)(mvlan <1-4094> | binding {eth PORT-LIST | ssid PORT-LIST | 5g-ssid PORT-LIST})**
Applicable view	gpon view
Function Description	Add an ipv4 bridge wan
<port-id>	pon port id where onu is located
<onu-id>	Onu Id
(<1-8>|WANNAME)	1-8: add wan id as index WANNAME: Specify the wan name to add, the name length is 1-24, the new wan will automatically generate a wan index
(internet | other)	Service type, bridge mode only has internet and other two
(untag | transparent | tag <1-4094>	Vlan processing mode: Untag: Only allow packets that do not carry vlan Transparent: Transparent transmission

priority <0-7>)	Tag: set the vlan id of wan, the value range is 1-4094, priority: 0-7
mvlan <1-4094>	Configure multicast vlan (1-4094) optional
{eth PORT-LIST | ssid PORT-LIST | 5g-ssid PORT-LIST}	Wan binding port, optional Eth: bind eth port: <1-8> (input: 1-2,4) Ssid: bind ssid: <1-8> (input: 1-2,4) 5g-Ssid: bind 5g-ssid: <1-8> (input: 1-2,4)

【Configuration case】

Case 1: Add an ipv4 bridge wan with index 1 to pon port 1 onu 1, service type internet, configure wan vlanid as 100, priority 0 multicast vlan 200, bind port eth1-2

```
OLT(config-interface-gpon-0/0)# ont wan add 1 1 1 ipv4 bridge internet vlan-mode tag 100 priority 0 mvlan 200 binding eth 1-2
```

28.5.2.Add Route Wan

Command syntax	OLT(config-interface-gpon -0/0)# **ont wan add *<port-id> <onu-id> (<1-8>|WANNAME)* ipv4 route (internet | other | tr069 | tr069-internet |tr069-voice | tr069-voice-internet | voice | voice-internet) (static ip ABCD mask ABCD gateway ABCD primary-dns ABCD secondary-dns ABCD | pppoe servicename NAME username NAME password PASSWORD | dhcp) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>) { igmp-proxy (enable <1-4094> | disable) | binding {eth PORT-LIST | ssid PORT-LIST | 5g- ssid PORT-LIST} }**
Applicable view	gpon view
Function Description	Add an ipv4 route wan
<port-id>	pon port id where onu is located
<onu-id>	Onu Id
<1-8>|WANNAME	1-8: add wan id as index WANNAME: Specify the wan name to add, the name length is 1-24, the new wan will automatically generate a wan index
(internet | other | tr069 | tr069-internet | tr069-voice | tr069-voice-internet | voice |	service type, tr069 | voice | tr069-voice cannot bind port

voice-internet	
(static ip ABCD mask ABCD gateway ABCD primary-dns ABCD secondary-dns ABCD | pppoe servicename NAME username NAME password PASSWORD | dhcp)	IP mode: Static: Add static ip: ip xxxx mask mask:xxxx gateway:gateway primary-dns: preferred dns server ip secondary: alternate dns server ip Pppoe: pppoe mode: Servicename: pppoe service name length 1-24 Username: User name, length 1-24 Password: User password length 1-24 DHCP mode
(untag | tag <1-4094> priority <0-7>)	Vlan processing mode: Untag: Only allow packets that do not carry vlan Tag: set the vlan id of wan , the value range is 1-4094, priority: 0-7
igmp-proxy (enable <1-4094> | disable)	Whether to enable multicast proxy, optional. Enable: Enable, <1-4094> multicast vlan, the value range is 1-4094 Disable; close
{eth PORT-LIST | ssid PORT-LIST | 5g-ssid PORT-LIST}	Wan binding port, optional Eth: bind eth port: <1-8> (input: 1-2,4) Ssid: bind ssid: <1-8> (input: 1-2,4) 5g-Ssid: bind 5g-ssid: <1-8> (input: 1-2,4)

【Configuration case】

Case 1: Add an ipv4 route wan with index 1 to pon port 1 onu 1, service type internet, ip allocation mode select static, ip: 192.168.100.10 mask 255.255.255.0 gateway: 192.168.100.1 preferred dns: 202.96.134.133 Standby 202.96.128.166 Configure wan vlanid as 100, priority 0 enable multicast proxy multicast vlan 200, bind port eth1-2

```
OLT(config-interface-gpon-0/0)# ont wan add 1 1 1 ipv4 route internet static ip 192.168.100.10 mask 255.255.255.0 gateway 192.168.100.1 primary-dns 202.96.134.133 secondary-dns 202.96.134.133 vlan-mode tag 100 priority 0 igmp-proxy enable 200 binding eth 1-2
```

Case 2 : Add an ipv4 route wan with wan name pppoe_test to pon port 1 onu 1, service type internet, ip mode select pppoe, pppoe service name test username test password test vlan mode select untag

```
OLT(config-interface-gpon-0/0)# ont wan add 1 1 pppoe_test ipv4 route internet pppoe
```

```
servicename test username test password test vlan-mode untag
```

28.5.3.View the ONT's WAN connection information

Command syntax	OLT(config-interface-gpon-0/0)# **show ont wan config <port-id> < ONT-id >**
Applicable view	gpon interface view
Function 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, ranging from 1 to 128

【Configuration case】

Connect the WAN connection information of ONT 1 of PON2 port

```
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

---------- ----------

28.5.4.ONT WAN connection modification

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > ipv4 bridge** OLT(config-interface-gpon-0/0)# **ont wan config <port-id> < ONT-id > < Wan - connection - ID > ipv4 dhcp** OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > ipv4 pppoe servicename <NAME> username <NAME> password < PASSWORD >** OLT(config-interface-gpon-0/0)# **ont wan modify <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 >** OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > ipv4 option-60 (enable OPTION |disable)**
Applicable view	gpon interface view
Function Description	This command is used to modify the WAN connection of the ONT, 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, and the OLT does not support the creation of the WAN connection of the ONT temporarily.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT - id : ONT id of the ONT connected to the WAN to be modified, ranging from 1 to 128
< Wan - connection - ID >	Index of the created WAN connection, value range: 0-32
bridge	Change the type of WAN connection to bridge
dhcp	Change the type of WAN connection to dhcp
pppoe	Change 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 pppoe's WAN connection
<time-value>	Modify the pause time of pppoe dial-on-demand, the value range is 1-86400, the unit is second
static ip	Change the type of WAN connection to static ip address
<ONT-IP>	Modify the static IP address of the WAN connection , the format is XXXX
mask < ONT - subnet - mask >	Modify the address mask of the static IP address of the WAN connection, the format is XXXX
gateway < ONT gateway >	Modify the IP address of the gateway connected to the WAN, which must be in the same network segment as the configured static IP address, in the format of XXXX
pri-dns < ONT - primary - DNS >	Modify the IP address of the primary DNS server for the WAN connection. The DNS server is used to resolve the IP address through the domain name, or obtain its domain name information through the IP address, the format is XXXX
slave-dns < ONT - slave - DNS >	Modify the IP address of the secondary DNS server for the WAN connection, the format is XXXX
option-60 (enable OPTION |disable)	Whether to enable option60 flag Enable: Enable OPTION content length 1-64 Disable: close

【Configuration case】

Case 1: Modify WAN connection 1 of ONT 1 of PON1 port to bridge

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 ipv4 bridge

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

1 of PON1 port to dhcp

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 2 ipv4 dhcp
OLT(config-interface-gpon-0/0)#
```

Case 3: Modify the WAN connection 3 of ONT 1 of the PON1 port to pppoe, and the pppoe username and password are test/test

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 3 ipv4 pppoe username test password test
OLT(config-interface-gpon-0/0)#
```

Case 4: Modify the WAN connection 4 of ONT 1 of the PON1 port to a static IP address, the IP address is 192.168.5.55, the gateway is 192.168.5.254, the primary DNS address is 8.8.8.8, and the secondary DNS address is 4.4.4.4

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 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
OLT(config-interface-gpon-0/0)#
```

28.5.5.Enable or disable the ONT's WAN connection

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > connection- status <switch >**
Applicable view	gpon interface view
Function Description	This command is used to open or close the WAN connection.
<port-id>	Specifies the PON port number where the ONT is located. Value range: 1-16
< ONT-id >	ONT - id : The ONT id to be configured to open or close the WAN connection, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<switch>	Enable : Enable the WAN connection of the ONT Disable : Disable the ONT's WAN connection

【Configuration case】

Enable WAN connection 1 of ONT 1 of PON1 port

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 connection- status enable
OLT(config-interface-gpon-0/0)#
```

28.5.6.Modify the bound port of the ONT WAN connection

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > binding <ONT-port-id>**
Applicable view	gpon interface view
Function Description	This command is used to modify the WAN connection of the ONT and the actual port binding information of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Values are

	1-16
< ONT-id >	ONT - id : the ONT id of the ONT bound to the port by the WAN connection to be modified, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<ONT-port-id>	Modify the actual port of the ONT that needs to be bound to the WAN connection. The ONT's lan port is port1-port4, the ONT's WiFi SSID is <1-8>, and the ONT's 5g WiFi SSID is <1-8>

【Configuration case】

Case 1: Bind the WAN connection 1 of the ONT 1 of the PON1 port to the LAN1 and WiFi SSID1 together

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 0 binding eth 1 ssid1

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

28.5.7.Modifying the service type of an ONT WAN connection

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > service-type <service-type>**
Applicable view	gpon interface view
Function 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. Values are 1-16
< ONT-id >	ONT - id : ONT id of the ONT whose WAN connection service type is to be modified, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<service-type>	Modify the service type of the ONT WAN connection: Internet : used to surf the Internet internet-tr069: for both internet and tr069 internet-voip: for internet and voice at the same time internet-voip-tro69: for internet, voice and tr069 at the same time other: for iptv tr069: for tr069

	voip: for voice voip-tr069: for both voice and tr069

【Configuration case】

Change the service type of WAN connection 1 of ONT 1 of PON1 port to internet-voip

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 service-type internet-voip

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

28.5.8.VLAN Handling Mode of ONT WAN Connections

Command syntax	OLT(config-interface-gpon -0/0)# **ont wan modify *<port-id>* *<onu-id>* (*<1-8>*|*WANNAME*) vlan-mode (untag | transparent | tag <1-4094> priority <0-7>)**
Applicable view	gpon view
Function Description	Add an ipv4 bridge wan
<port-id>	pon port id where onu is located
<onu-id>	Onu Id
(<1-8>|WANNAME)	1-8: add wan id as index WANNAME: Specify the wan name to add, the name length is 1-24, the new wan will automatically generate a wan index
(untag | transparent | tag <1-4094> priority <0-7>)	Vlan processing mode: Untag: Only allow packets that do not carry vlan Transparent: Transparent transmission Tag: set the vlan id of wan, the value range is 1-4094, priority: 0-7

【Configuration case】

Case 1: Modify the vlan processing mode of pon port 1 onu 1 wan connection 1 to transparent transmission.

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 vlan-mode transparent
```

28.5.9.Modify the MTU value of the ONT WAN connection

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > mtu <MTU-value>**
Applicable view	gpon interface view

Function Description	This command is used to configure the MTU value of the ONT's WAN connection.
<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 whose WAN connection MTU value is to be configured, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<MTU-value>	Configure the MTU value of the WAN connection of the ONT, the value range: 64-1540

【Configuration case】

Configure the MTU value of WAN connection 1 of ONT 1 of PON1 port to 1500

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 mtu 1500

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

28.5.10.Enable or disable the NAT function of ONT WAN connection

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > nat <switch >**
Applicable view	gpon interface view
Function Description	This command is used to enable or disable the nat function of the ONT's WAN connection. This function is mainly applicable to WAN connections with 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 to be configured with the WAN connection nat, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<switch>	nat function of ONT WAN connection Disable : Disable the nat function of the ONT WAN connection

【Configuration case】

Case 1: Enable nat function on WAN connection 1 of ONT 1 of PON1 port

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 nat enable

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

28.5.11.Enable or disable the DHCP function on the LAN side of the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **ont wan modify <port-id> < ONT-id > < Wan - connection - ID > lan-dhcp <switch >**
Applicable view	gpon interface view
Function Description	This command is used to enable or disable the DHCP function on the LAN side of the ONT under the WAN connection. It is mainly used to determine whether the PC under the ONT allocates an IP address from the ONT side under the WAN.
<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 LAN side dhcp function to be configured on the ONT, ranging from 1 to 128
< Wan - connection - ID >	The index of the created WAN connection, the value range: 0-32
<switch>	Enable : Enable the dhcp function on the LAN side of the ONT under the WAN connection Disable : Disable the dhcp function on the LAN side of the ONT under the WAN connection

【Configuration case】

Case 1: Enable the DHCP function on the LAN side of the WAN connection 1 of ONT 1 of the PON1 port

```
OLT(config-interface-gpon-0/0)# ont wan modify 1 1 1 lan-dhcp enable

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

28.6.ONT WIFI connection management

28.6.1.enable WIFI

Command syntax	OLT(config-interface- g pon-0/0) # **ont wifi <port-id> <onu-id> (2.4g|5g) (disable|enable)**
Applicable view	gpon view
Function Description	enable wifi
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64
(2.4g|5g)	wifi band 2.4g and 5g
(disable|enable)	Enable: open Disable: close

【Configuration case】

Case 1: Enable 2.4g band wifi of pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# ont wifi 1 1 2.4g enable
```

28.6.2.WIFI properties 2.4G frequency band configuration

Command syntax	OLT(config-interface- g pon-0/0)# **ont wifi <port-id> <onu-id> attribute 2.4g {wifi-mode (802.11b | 802.11g | 802.11b/g | 802.11n | 802.11b /g/n)| channel-bandwidth (20|40) |channel-id <0-13> | wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48| 54)| txpower (100% |80%|60%|35%|15%)|country-region (usa |india |european-union |spain |france |japan |israli |china-taiwan |russian |china |global |world-wide) | sgi-enable (disable|enable) |wps-enable (disable |enable) |ap-iso(disable|enable)}**
Applicable view	gpon view
Function Description	Configure the wifi properties of the 2.4g frequency band, each parameter is optional
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64
wifi-mode (802.11b|802.11g|802.11b/g|802.11n|802.11b	Configure the working mode of the wireless network

/g/n)	
channel-bandwidth (20|40)	Configure the channel width occupied by wireless data transmission 20: 20MHz 40: 40MHz
channel-id <0-13>	The value of the channel for wireless network work is 0-13, 0 is auto
wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)	The value of wifi rate is auto 1: 1M 2:2M 5.5:5.5M 6:6M 9:9M 12:12M 18:18M 24:24M 36: 36M 48: 48M 54: 54M
txpower (100%|80%|60%|35%|15%)	Transmission power value: 100% 80% 60% 35% 15%
country-region (usa|india|european-union|spain|france|japan|israli|china-taiwan|russian|china|global|world-wide)	Country code value: USA India European-union Spain France Japan Israli China-taiwan Russian China global world-wide
sgi-enable (disable|enable)	Sgi enabled Enable: open Disable: close
wps-enable (disable|enable)	Wps enable Enable: open Disable: close
ap-iso(disable|enable)	Ap isolation enable Enable: open Disable: close

【Configuration case】

Case 1: Configure the 2.4g band wifi properties of pon 1 onu 1, select `802.11b channel bandwidth 40MHZ for network working mode, and select 5 for working channel`

```
OLT(config-interface- g pon-0/0)# ont wifi 1 1 attribute 2.4g wifi-mode 802.11b channel-bandwidth 40 channel-id 5
```

28.6.3.WIFI attribute 5G frequency band configuration

Command syntax	OLT(config-interface- gpon-0/0)# **ont wifi <port-id> <onu-id> attribute 5g {wifi-mode (802.11b | 802.11g | 802.11b/g | 802.11n | 802.11b/ g/n | 802.11a | 802.11a/n | 802.11ac/a/n)| channel-bandwidth (20|40|80) |channel-id (0|36|40|44|48|52|56|60|64|149|153|157|161)| wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)| txpower (100%|80%|60%|35%|15%)| country-region (usa|india|european-union|spain|france|japan|israli|china-taiwan |russian|china|global|world-wide) | sgi-enable (disable|enable) | wps-enable (disable|enable)| ap-iso(disable|enable)}**
Applicable view	gpon view
Function Description	Configure the wifi properties of the 5g frequency band, each parameter is optional
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64
wifi-mode (802.11b|802.11g|802.11b/g|802.11n|802.11b/g/n|802.11a|802.11a/n|802.11ac/a/n)	Configure the working mode of the wireless network
channel-bandwidth (20|40|80)	Configure the channel width occupied by wireless data transmission 20: 20MHz 40: 40MHz 80: 80MHz
channel-id <0-13>	The value of the channel for wireless network work is 0-13, 0 is auto
wifi-rate (auto|1|2|5.5|6|9|12|18|24|36|48|54)	The value of wifi rate is auto 1: 1M 2:2M 5.5:5.5M 6:6M 9:9M 12:12M 18:18M 24:24M 36: 36M 48: 48M 54: 54M
txpower (100%|80%|60	Transmission power value: 100% 80% 60% 35% 15%

%|35%|15%)	
country-region (usa|india|european-union|spain|france|japan|israli|china-taiwan|russian|china|global|world-wide)	Country code value: USA India European-union Spain France Japan Israli China-taiwan Russian China global world-wide
sgi-enable (disable|enable)	Sgi enabled Enable: open Disable: close
wps-enable (disable|enable)	Wps enable Enable: open Disable: close
ap-iso(disable|enable)	Ap isolation enable Enable: open Disable: close

【Configuration case】

Case 1: Configure the 5g band wifi attribute of pon 1 onu 1, select `802.11a/n channel bandwidth 40MHZ for network working mode, 36 working channel and world-wide country code`

```
OLT(config-interface- g pon-0/0)# ont wifi 1 1 attribute 5g wifi-mode 802.11a/n channel-bandwidth 40 channel-id 36 country-region world-wide
```

28.6.4.De-enable WIFI SSID

Command syntax	OLT(config-interface- g pon-0/0) **# ont wifi ssid <port-id> <onu-id> <1-4> (2.4g|5g) admin disable**
Applicable view	`gpon view`
Function Description	de-enable wifi ssid
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64
<1-4>	ssid index value is 1-4

(2.4g|5g)	wifi band 2.4g and 5g

【Configuration case】

Case 1: Turn off 5g band ssid 1 of pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# ont wifi ssid 1 1 1 5g admin disable
```

28.6.5.Configure WIFI SSID properties

Command syntax	OLT(config-interface- g pon-0/0)# **ont wifi ssid <port-id> <onu-id> <1-4> (2.4g|5g) admin enable broadcast-admin (disable|enable) NAME max -user <0-128> {open|(wpa | wpa2| wpa2-mixed) wpa-encrypt (tkip | aes | tkip/aes) KEY}**
Applicable view	gpon view
Function Description	Configure the properties of wifi ssid
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64
<1-4>	ssid index value is 1-4
(2.4g|5g)	wifi band 2.4g and 5g
broadcast-admin (disable|enable)	Broadcast enable enable: open Disable: close
NAME	SSID name length 1-24
max-user <0-128>	The maximum number of connected users ranges from 0 to 128
open|(wpa | wpa2| wpa2-mixed)	Encryption method, open is not encrypted Wpa: use wpa encryption Wpa2: use wpa2 encryption Wpa2-mixed mixed encryption
(tkip | aes | tkip/aes)	Wpa encryption algorithm Value tkip aes tkip/aes
KEY	Password length 1-24

【Configuration case】

Case 1: Configure 2.4g frequency band wifi ssid 1 of pon 1 onu 1, enable broadcast, ssid name test, maximum number of connected users 10, encryption method select wpa encryption algorithm tkip password 123

```
OLT(config-interface- g pon-0/0)# ont wifi ssid 1 1 1 2.4g admin enable broadcast-admin enable test max-user 10 wpa wpa-encrypt tkip 123
```

28.6.6.Restore WIFI default properties

Command syntax	OLT(config-interface- g pon-0/0)# **ont wifi <port-id> <onu-id> default-setting**
Applicable view	gpon view
Function Description	Restore the default properties of onu wifi, olt will clear the configuration locally
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64

【Configuration case】

Case 1: Restore the wifi of pon 1 onu 1 to default properties

```
OLT(config-interface- g pon-0/0)# ont wifi 1 1 default-setting
```

28.6.7.View ONU WIFI configuration

Command syntax	OLT(config-interface- g pon-0/0)# **show ont wifi config <port-id> <onu-id>**
Applicable view	gpon view
Function Description	View onu wifi configuration, including ssid information
<port-id>	pon port id where onu is located
<onu-id>	Onu Id value 1-64

【Configuration case】

Case 1: View the wifi configuration of pon 1 onu 1

```
OLT(config-interface- g pon-0/0)# show ont wifi config 1 1
------------------------------------------------ ------------------------------------
Wifi Band: 2.4g
Wi-Fi state : disable
```

```
Wi-Fi Mode: 802.11b
ChannelBandwidth: 40MHz
Channel ID : 5
Wifi Rate : --
Tx Power : --
Country Region : --
SGI Enable : --
WPS Enable : --
AP ISO : --
---------------------------------------------- ----------------------------------------
---------------------------------------------- ----------------------------------------
SSID(2.4g) status Broadcast Name MaxUser Encrypt Wpa Key
Admin mode encrypt
---------------------------------------------- -------------------------
1 enable enable test 10 WPA TKIP 123
---------------------------------------------- -------------------------
```

28.7.ONT port management

28.7.1.ONT port Native - vlan (access) VLAN configuration

Command syntax	OLT(config-interface-gpon-0/0)# **ont port native-vlan <port-id> < ONT-id > eth <ONT-port-id> {vlan < VLAN - ID > | priority < Priority >}**
Applicable view	gpon interface view
Function Description	This command is used to configure native-vlan, that is, access vlan, for the ONT port. The vlan processing rules are as follows: For outbound packets: • When the VLAN ID carried in 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 in the packet is different from the ID of the native VLAN, the packet contains a VLAN tag. For inbound Untag packets, add a Native VLAN. By default, the native VLAN of an Ethernet port is 1.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128

<ONT-port-id>	The ONT port id of the native-vlan needs to be configured, and the value ranges from 1 to 8.
<vlan id>	Set the vlan id of the native-vlan of the ONT port, ranging from 1 to 4094
<priority>	Optional, set the priority of the ONT port vlan

【Configuration case】

Configure native-vlan 100 for eth port 1 of ONT 1 of PON1 port

```
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 1 vlan 100

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

28.7.2.Configuring the uplink and downlink rate limits for ONT ports

Command syntax	OLT(config-interface-gpon-0/0)# **ont port car <port-id> < ONT-id > eth < eth -port-id> {inbound | outbound} < traffic - profile - ID >**
Applicable view	gpon interface view
Function Description	This command is used to configure the upstream and downstream bandwidth rate limit function of the ONT port .
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
<eth-port-id>	The id of the Ethernet port of the ONT, ranging from 1 to 8
inbound	Configuring the upstream (ingress) rate limit function of an ONT port
outbound	Configuring the downstream (egress) rate limit function of an ONT port
< traffic - profile - ID >	The ONT port rate limit needs to be bound to the traffic template id. The bandwidth value configured for the port rate limit on the ONT is bound to the traffic template. You can use the OLT(config)# show traffic-profile all command to check which traffic profiles exist on the OLT.

【Configuration case】

Case 1: Configure the upstream and downstream port rates of the first Ethernet port of ONT 1 on the PON1 port to be 500M (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)#
```

28.7.3.Check the uplink and downlink rate limits of ONT ports

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port car <port-id> < ONT-id > eth all**
Applicable view	config view or gpon interface view
Function Description	configuration of the upstream and downstream bandwidth rates of the ONT port.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be viewed, ranging from 1 to 128
all	View the upstream and downstream bandwidth rate configuration of all ports of the ONT

【Configuration case】

Case 1: View the upstream and downstream bandwidth rate configuration of all ports of PON2 port ONT2

```
OLT(config-interface-gpon-0/0)# show ont port car 2 2 eth all
------------------------------------------------ ------------------------------------
F/SP ONT Port Inbound Outbound
------------------------------------------------ ------------------------
0/0 2 2 1 6 6
------------------------------------------------ ------------------------------------

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

28.7.4.Enable or disable the ONT port flow control function

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > eth < eth -port-id> flow-control <switch>**
Applicable view	config view

Function 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. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 64
<eth-port-id>	The id of the Ethernet port of the ONT, ranging from 1 to 8
<switch>	on: Enable the flow control function of the Ethernet port off: Disable the flow control function of the catv port

【Configuration case】

Case 1: Enable the flow control function of the first Ethernet port of ONT 1 of the PON1 port .

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 flow-control on

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

28.7.5.Configuring the auto-negotiation function of an ONT port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > eth < eth -port-id> auto-neg**
Applicable view	gpon interface view
Function 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. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
<eth-port-id>	ID of the Ethernet port that needs to enable ONT port auto-negotiation, the value range is 1-24

【Configuration case】

Case 1: Enable the auto-negotiation function of the first Ethernet port of ONT 1 of the PON1 port.

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 auto-neg

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

28.7.6.Configure the speed and duplex mode of the ONT port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > eth < eth -port-id> speed <speed> dulepx full/half**
Applicable view	gpon interface view
Function Description	speed and duplex mode of the ONT Ethernet port.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
<eth-port-id>	The id of the Ethernet port of the ONT, ranging from 1 to 8
<speed>	10 : 10Mb/s 100 : 100Mb/s 1000 : 1000Mb/s
full/half	full : full duplex mode half : half duplex mode

【Configuration case】

the first Ethernet port of ONT 1 is 1000Mb /s and it is in full-duplex mode .

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 speed 1000 dulepx full

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

28.7.7.Enable or disable ONT port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > eth < eth -port-id> operational-state <switch>**
Applicable view	gpon interface view
Function Description	This command is used to enable or disable the port of the ONT.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
<eth-port-id>	The id of the Ethernet port of the ONT, ranging from 1 to 8
< switch >	on: open the ONT port off: Turn off the ONT port

【Configuration case】

the first port of ONT 1 of the PON1 port

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 operational-state on

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

28.7.8.Binding an IGMP profile to an ONT port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-ID> < onu-id > | <onu-list> eth <ONT-port-ID> igmp-profile profile-id < *Profile ID* >**
Applicable view	gpon view
Function Description	Ont binding igmp template
<port-ID>	to which the ONT to be configured belongs. The value ranges from 1 to 16.
< onu-id > | <onu-list>	Onu-list: ONU list to be modified, the value format is: 1, 3-5, 8
<ONT-port-ID>	The ont port id to be modified, the value range is 1-8
< *Profile ID* >	igmp template id, the value range is 1-256

【Configuration case】

Case 1: The first port of the first onu under pon1 is bound to igmp template 1

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 eth 1 igmp-profile profile-id 1
The ONU does not exist in the authentication table

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

28.7.9.View ONT port configuration information (native-vlan, port rate, flow control)

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port attribute <port-id> < ONT-id > eth all**
Applicable view	config view or gpon interface view
Function Description	This command is used to view the ONT port configuration (including native-vlan, port rate, flow control)
<port-id>	Specifies the PON port number where the ONT is located. Values are

	1-16
< ONT-id >	ONT id of the ONT to be viewed, ranging from 1 to 128
all	View the upstream and downstream bandwidth rate configuration of all ports of the ONT

【Configuration case】

Case 1: View the configuration information of all ports of PON2 port ONT2

```
OLT(config-interface-gpon-0/0)# show ont port attribute 2 2 eth all
------------------------------------------------ ---------------------------------------
F/SP 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)#
```

28.7.10.View ONT port status (link status, rate negotiation)

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port state <port-id> < ONT-id > eth all**
Applicable view	config view or gpon interface view
Function Description	This command is used to view ONT port status (including link status, port negotiation rate), etc.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be viewed, ranging from 1 to 128
all	View the status of all ports on the ONT

【Configuration case】

Case 1: Check the status of all ports of PON2 port ONT2

```
OLT(config-interface-gpon-0/0)# show ont port state 2 2 eth all
------------------------------------------------ ---------------------------------------
F/SP 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)#
```

28.7.11.Enable or disable ONT CATV port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > catv <catv-port-id> operational-status <switch>**
Applicable view	gpon interface view
Function 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. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
<catv-port-id>	The catv port id of the ONT, ranging from 1 to 8
<switch>	on: enable catv port off: disable the catv port

【Configuration case】

Case 1: Enable the CATV port of ONT 1 of the PON1 port .

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 catv 1 operational-state on

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

28.7.12.View the CATV configuration of the ONT

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port attribute <port-id> < ONT-id > catv all**
Applicable view	gpon interface view
Function Description	This command is used to view the ONT CATV port configuration.
<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be viewed, ranging from 1 to 128
all	View all CATV port configurations of the ONT

【Configuration case】

Case 1: View the CATV port configuration information of the PON2 port ONT2

```
OLT(config-interface-gpon-0/0)# show ont port attribute 2 2 catv all
------------------------------------------------ ------------------------------------
F/SP ONT ONT-Port Port-Switch
------------------------------------------------ -------------------------
0/0 2 2 1 off
------------------------------------------------ ------------------------------------

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

28.7.13.View ONT CATV information

Command syntax	OLT(config-interface-gpon-0/0)# **show ont catv-info <port-ID> {< ONT-id > | all}**
Applicable view	gpon view
Function Description	View ont catv information
<port-ID>	to be viewed , in the range of 1-16.
< ONT-id >	ONT to be viewed , the value range is 1-128 .

【Configuration case】

Case 1: View CATV information of all ONUs of PON8

```
OLT(config-interface-gpon-0/0)# show ont catv-info 8 all
------------------------------------------------ ------------------------------------
F/SP ONT Voltage Tx Rx optical Temperature
ID (V) Voltage(dBuV) power(dBm) (C)
------------------------------------------------ -------------------------
0/0 8 1 -- -- -- --
------------------------------------------------ ------------------------------------

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

28.7.14.View the MAC address table learned by the ONT port

Command syntax	OLT(config-interface-gpon-0/0)# **show ont port learned-mac <port-id> < ONT-id > eth < eth -port-id>**
Applicable view	config view or gpon interface view
Function Description	This command is used to view the MAC address table learned by the ONT port

<port-id>	Specifies the PON port number where the ONT is located. Values are 1-16
< ONT-id >	ONT id of the ONT to be viewed, ranging from 1 to 128
< eth -port-id>	Specifies that the ONT needs to view the learned MAC address table port id, which ranges from 1 to 8.

【Configuration case】

Case 1: View the MAC address table learned by port 1 of ONT2 of PON2 port

```
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)#
```

28.8.ONT performance statistics

28.8.1.View ONT performance statistics

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics ont <port-ID> < ONT-id >**
Applicable view	gpon view
Function Description	View ONU traffic statistics
<port-ID>	ONT to be checked , in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .

【Configuration case】

Case 1: View the traffic statistics of ONU1 under pon8

```
OLT(config-interface-gpon-0/0)# show statistics ont 8 1
---------------------------------------------- ----------------------------------------
Rx rate (kbps): 0 Tx rate (kbps): 0
---------------------------------------------- ----------------------------------------
Upstream frames : 0
Upstream bytes : 0

Downstream frames : 0
Downstream bytes : 0
---------------------------------------------- ----------------------------------------

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

28.8.2.port performance statistics of the ONT in the current 15 minutes

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics ont-eth-performance <port-ID> < ONT-id > <ONT-port-ID> current-15minutes**
Applicable view	gpon view
Function Description	View the current 15-minute performance statistics of ont
<port-ID>	ONT to be checked , in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .
<ONT-port-ID>	The ONT port to be viewed , in the range of 1-8.

【Configuration case】

Case 1: View the current 15-minute performance statistics of port 1 of ONU1 under pon8

```
OLT(config-interface-gpon-0/0)# show statistics ont-eth-performance 8 1 1 current-15minutes
---------------------------------------------- ---------------------------------------
Received frames: 0
Received bytes: 0
Received broadcast frames: 0
Received multicast frames :0
Received 64 byte frames: 0
Received 65~127 byte frames: 0
Received 128~255 byte frames: 0
Received 256~511 byte frames: 0
Received 512~1023 byte frames: 0
Received 1024~1518 byte frames: 0
Received crc error frames: 0
Received undersize frames :0
Received oversize frames: 0
Received discarded frames :0

Sent frames: 304
Sent bytes: 19456
Sent broadcast frames: 304
Sent multicast frames :0
Sent 64 byte frames :304
Sent 65~127 byte frames :0
```

```
Sent 128~255 byte frames :0
Sent 256~511 byte frames :0
Sent 512~1023 byte frames: 0
Sent 1024~1518 byte frames: 0
Sent crc error frames :0
Sent undersize frames :0
Sent oversize frames :0
Sent discarded frames :0
---------------------------------------------- ----------------------------------------


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

28.8.3.View the port performance statistics of the ONT in the past 15 minutes

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics ont-eth-performance <port-ID> < ONT-id > <ONT-port-ID> historic-15minutes**
Applicable view	gpon view
Function Description	View port performance statistics of ont in the past 15 minutes
<port-ID>	ONT to be checked , in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .
<ONT-port-ID>	The ONT port to be viewed , in the range of 1-8.

【Configuration case】

Case 1: View the performance statistics of port 1 of ONU1 under pon8 in the past 15 minutes

```
OLT(config-interface-gpon-0/0)# show statistics ont-eth-performance 8 1 1 historic-15minutes
---------------------------------------------- ----------------------------------------
Received frames: 0
Received bytes: 0
Received broadcast frames: 0
Received multicast frames :0
Received 64 byte frames: 0
Received 65~127 byte frames: 0
Received 128~255 byte frames: 0
Received 256~511 byte frames: 0
```

```
Received 512~1023 byte frames: 0
Received 1024~1518 byte frames: 0
Received crc error frames: 0
Received undersize frames :0
Received oversize frames: 0
Received discarded frames :0

Sent frames: 896
Sent bytes: 57344
Sent broadcast frames: 896
Sent multicast frames :0
Sent 64 byte frames :896
Sent 65~127 byte frames :0
Sent 128~255 byte frames :0
Sent 256~511 byte frames :0
Sent 512~1023 byte frames: 0
Sent 1024~1518 byte frames: 0
Sent crc error frames :0
Sent undersize frames :0
Sent oversize frames :0
Sent discarded frames :0
---------------------------------------------- ----------------------------------------


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

28.8.4.Reset ONT traffic statistics

Command syntax	OLT(config-interface-gpon -0/0)# **reset statistics ont-eth-performance <port-ID> < ONT-id > <ONT-port-ID>**
Applicable view	gpon view
Function Description	reset ont traffic statistics
<port-ID>	the ONT to be reset belongs . The value ranges from 1 to 16.
< ONT -ID>	The ONT to be reset , the value range is 1-128 .
<ONT-port-ID>	The ONT port to be reset , the value range is 1-8.

【Configuration case】

Case 1: Reset the traffic statistics of port 1 in ONU1 of pon8

```
OLT(config-interface-gpon-0/0)# reset statistics ont-eth-performance 8 1 1
```

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

28.9.ON U voice port configuration

28.9.1.Enable or disable ONT voice port

Command syntax	OLT(config-interface-gpon-0/0)# **ont port attribute <port-id> < ONT-id > pots < pots -port-id> operational-state <switch>**
Applicable view	gpon interface view
Function 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. Values are 1-16
< ONT-id >	ONT id of the ONT to be configured, ranging from 1 to 128
< pots -port-id>	Voice port id of the ONT, ranging from 1 to 8
< switch >	on: Enable ONT voice port off: Disable the ONT voice port

【Configuration case】

Case 1: Enable the first voice port of ONT 1 on the PON1 port

```
OLT(config-interface-gpon-0/0)# ont port attribute 1 1 pots 1 operational-state on

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

28.9.2.Add ONU voice port discrete configuration

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser add <port-id> <onu-id> <onu-port-id> {(password *<password>*)| (telno *<telno>*) | (username *<username>*)}**
Applicable view	gpon view
Function Description	Add onu voice port discrete configuration
<port-ID>	the ONT to be added belongs , in the range of 1-16.
< ONT -ID>	The ONT to be configured , the value range is 1-128 .

<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8 .
<password>	Password, maximum length is 23
<telno>	Telno, max length is 31
<username>	Username, maximum length is 24

【Configuration case】

Case 1: Add the first voice port of ONU1 under the PON1 port.

```
OLT(config-interface-gpon-0/0)# sippstnuser add 1 1 1
The ONU does not exist in the authentication table

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

28.9.3.Delete the ONU voice port configuration

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser del <port-id> <onu-id> <onu-port-id>**
Applicable view	gpon view
Function Description	Delete the ONU voice port configuration
<port-ID>	the ONT to be cancelled belongs . The value ranges from 1 to 16.
< ONT -ID>	The ONT to be cancelled , the value range is 1-128 .
<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8 .

【Configuration case】

Case 1: Delete the first voice port of ONU1 under the PON1 port.

```
OLT(config-interface-gpon-0/0)# sippstnuser del 1 1 1
The ONU does not exist in the authentication table

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

28.9.4.Modifying the discrete configuration of the ONU voice port

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser modify <port-id> <onu-id> <onu-port-id> {(password *<password>*) | (telno *<telno>*) | (username *<username>*)}**
Applicable view	gpon view

Function Description	Modifying the discrete configuration of the ONU voice port
<port-ID>	the ONT to be modified belongs . The value ranges from 1 to 16.
< ONT -ID>	The ONT to be modified , the value range is 1-128 .
<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8 .
<password>	Password, maximum length is 23
<telno>	Tleno, max length 31
<username>	Username, maximum length is 24

【Configuration case】

Case 1: Modify the user name of the first voice port of ONU1 under the PON1 port to 12, password 123, and telno1234.

```
OLT(config-interface-gpon-0/0)# sippstnuser modify 1 1 1 username 12 password 123 telno 1234
The ONU does not exist in the authentication table

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

28.9.5.ONU voice port service binding ont-sipagent template

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser ipconfig <port-id> <onu-id> <onu-port-id> [ip-index *<ip-index>*)]ont-sipagent-profile { profile-id *<profile-id>* } | {profile-name *<profile-name>* }**
Applicable view	gpon view
Function Description	ONU voice port service binding ont-sipagent template
<port-ID>	the ONT to be cancelled belongs . The value ranges from 1 to 16.
< ONT -ID>	The ONT to be cancelled , the value range is 1-128 .
<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8 .
<ip-index>	ip sequence numbers 0 and 1.
<profile-id>	ont-sipagent template id, the value range is 0-16
<profile-name>	ont-sipagent template name, the maximum length is 16

【Configuration case】

Case 1: The first voice port of ONU1 under PON1 port is bound to o nt-sipagent template 1.

```
LT(config-interface-gpon-0/0)# sippstnuser ipconfig 1 1 1 ont-sipagent-profile profile-id 1
The sip agent profile does not exist

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

28.9.6.ONU voice port service binding digitmap template

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser digitmap <port-id> <onu-id> <onu-port-id> digitmap-profile {profile-id *<profile-id>* }| {profile- name *<profile-name>* }**
Applicable view	gpon view
Function Description	The ONU voice port service is bound to the digitmap template.
<port-ID>	the ONT to be cancelled belongs . The value ranges from 1 to 16.
< ONT -ID>	The ONT to be cancelled , the value range is 1-128 .
<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8 .
<profile-id>	digitmap template id, the value range is 0-16
< profile-name>	Digitmap template name, the maximum length is 16

【Configuration case】

Case 1: The first voice port of ONU1 under PON1 port is bound to digitmap template 1.

```
OLT(config-interface-gpon-0/0)# sippstnuser digitmap 1 1 1 digitmap-profile profile-id 1
The digital map profile does not exist

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

28.9.7.ONU voice port service binding siprightflag template

Command syntax	OLT(config-interface-gpon -0/0)# **sippstnuser rightflag <port-id> <onu-id> <onu-port-id> siprightflag-profile {profile-id *<profile-id>* } | {profile- name *<profile-id>* }**
Applicable view	gpon view
Function Description	ONU voice port service binding siprightflag template
<port-ID>	the ONT to be cancelled belongs . The value ranges from 1 to 16.

< ONT -ID>	The ONT to be cancelled , the value range is 1-128 .
<ONT-port-ID>	Voice port id of the ONT, ranging from 1 to 8
<profile-id>	siprightflag template id, the value range is 0-16
<profile-name>	siprightflag template name, the maximum length is 16

【Configuration case】

Case 1: The first voice port of ONU1 under PON1 port is bound to siprightflag template 1.

```
OLT(config-interface-gpon-0/0)# sippstnuser rightflag 1 1 1 siprightflag-profile profile-id 1
The ONU does not exist in the authentication table

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

28.10.ONU restores factory mode

Command syntax	OLT(config-interface-gpon-0/0)# **ont restore factory <Port ID> <ONT ID>**
Applicable view	gpon tries
Function Description	Restore onu factory mode.

【Configuration case】

Case 1 : pon 16 port onu1 restore factory mode

```
OLT(config-interface-gpon-0/0)# ont restore factory 16 1
<cr> - Please press ENTER to execute command
```

28.11.Configuring ONT CATV Global Management

Command syntax	OLT(config)# **ont port attribute catv default-operational-state <switch>**
Applicable view	config view
Function Description	This command is used to enable or disable all ONT CATV ports
<switch>	on: enable catv port off: disable the catv port

【Configuration case】

Case 1: Enable the C ATV ports of all ONTs under the OLT

```
OLT(config)# ont port attribute catv default-operational-state on
```

28.12.ONU tr069 template

28.12.1.ONU binding tr069 template

Command syntax	OLT(config-interface-gpon-0/0)# **ont tr069- profile < Port ID ><ONT ID>{ ont-tr069profile-id <ont-tr069profile-id>|ont-tr069profile-name <ont-tr069profile-name >}**
Applicable view	gpon view
Function Description	tr069 template created by onu binding
< ont-tr069profile -id>	onu tr069 template id
< ont-tr069profile -name >	onu tr069 template name

【Configuration case】

Case 1 : pon 16 port onu1 binding tr069 template 1

```
OLT(config-interface-gpon-0/0)# ont tr069-config 16 1 ont-tr069profile-id 1
<cr> - Please press ENTER to execute command
```

28.12.2.Remove ONT tr069 template

Command syntax	OLT(config)# **no ont-tr069-profile{profile-id <profile-id>|profile-name <profile-name> }**
Applicable view	gpon view
Function Description	Delete the created tr069 template
<profile-id>	template id
<profile-name>	template name

【Configuration case】

Case 1 : Delete already created template 1

```
OLT(config)# no ont-tr069-profile profile-id 1
```

28.12.3.View information about the ONT tr069 template

Command syntax	OLT(config)# **show ont-tr069-profile all**
Applicable view	config view
Function Description	View all tr069 templates that have been created

【Configuration case】

Case 1 : View the created tr069 template

```
OLT(config)# show ont-tr069-profile all
---------------------------------------------- ---------------------------------------
Profile-ID Profile-name Binding times
---------------------------------------------- -------------------------
1 tr069profile_1 0
---------------------------------------------- ---------------------------------------
Total: 1
```

28.12.4.View the relevant parameters and binding times of the ONT tr069 template

Command syntax	OLT(config)# **show ont-tr069-profile{< profile-id>|< profile-name> } {<cr>|<bound-info>}** -
Applicable view	gpon view
Function Description	View the specific configuration parameters and template binding times of the corresponding template
<profile-id>	template id
<profile-name>	template name

【Configuration case】

Case 1 : View the configuration and binding times of template 1

```
OLT(config)# show ont-tr069-profile profile-id 1
---------------------------------------------- ---------------------------------------
Profile-ID : 1
Profile-name : tr069profile_1
Binding times : 0
---------------------------------------------- -------------------------
```

```
Acs url :
Acs port : 0
Acs user name :
Acs user password :
Auth realm :
Inform : enalbe
Inform interval : 30
Connect request auth : enalbe
Cpe user name :
Cpe user password :
Cpe port : 0
------------------------------------------------ ------------------------------------
OLT(config)# show ont-tr069-profile profile-id 1 bound-info
Tr069 profile 1 has not been bound.
```

29.Service virtual port configuration

Service Virtual Port is also called Service Flow. It is the result of classifying user service traffic (referred to as flow classification) based on the characteristics of Ethernet packets on physical ports or logical ports. Layer 2 logical channel carrying services between 16Port/8Port GPON OLTs (determines the Layer 2 forwarding path of packets).

When the number of users accessing the device is huge, there are multiple services (Internet, VoIP, IPTV, etc.) for the same user. Different user services can be distinguished by configuring different service flows (so that they do not affect each other). Generally, services of different users 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 16Port/8Port GPON OLT (contents that must be configured). In addition to distinguishing business traffic, it is also the most fine-grained division of user business. Differentiated and refined management can be achieved on its basis, such as QoS processing, line identification and security policies.

Table 1: VLAN tag conversion modes in upstream and downstream

Tag-action	How to handle
add-double	Add two layers of Tag. Add two layers of packets on the user side: S-VLAN+C-VLAN. Applies to: S-VLAN is QinQ VLAN, Common VLAN or Stacking VLAN, single service or service flow classified by user-encapuser-encap flow. S-VLAN is QinQ VLAN, Common VLAN or Stacking VLAN, untagged service flow. inner-vlan: The inner VLAN after switching. When the processing

	method is add-double or translate-and-double, the inner VLAN can be specified.
default	By default , the C-VLAN carried on the user side remains unchanged, and a layer of S-VLAN is added. If VLAN is set in the new 16Port/8Port GPON OLT to distinguish different services, but you do not want to change the VLAN tag of user-side packets. Use this mode.
translate	The C-VLAN carried by the user side is switched to the S-VLAN by performing a layer-level VLAN switch. This mode is used when only one layer of VLAN tags can be used to identify user services and the service VLAN configured on the new 16Port/8Port GPON OLT is different from the VLAN in the user-side packets.
translate-and-add	Switch VLAN and add a layer of VLAN tag. Switch the C-VLAN carried on the user side to a C-VLAN, and then add an S-VLAN to form an S+C two-layer VLAN uplink. This mode is used when two layers of VLAN tags are required to identify user services (for example, one layer identifies services and one layer identifies users), and the VLAN of user-side packets is different from the user-side VLAN planned on the new 16Port/8Port GPON OLT. . inner-vlan: The inner VLAN after switching. When the processing method is add-double or translate-and-double, the inner VLAN can be specified.
transparent	Transparent transmission without any VLAN changes. Directly use the C-VLAN carried on the user side as the S-VLAN upstream. This mode can be used if the VLANs that are planned on the new 16Port/8Port GPON OLT to identify different services are consistent with the VLANs of user-side packets.

29.1.Create service-port

29.1.1.Create a single-service virtual port

Command syntax	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>]}**
Applicable view	config view
Function Description	This command is used to create a single-service virtual port. Single-service virtual port service means that a user port only passes one service type, or does not distinguish between service types.

<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<autoindex>	When creating a service virtual port, you can specify an index value or not. If not specified, the system automatically assigns a free index value
<vlan-id>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<ont-id>	ID of the ONT. When the service virtual port of the specified ONT needs to be set, the value range is 1-128
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
Tag-action	For details, please refer to Table 1 in this chapter
inbound	Ingress port direction
outbound	Outgoing port direction
<Traffic profile index>	Index of traffic templates
<Traffic profile name>	Traffic template name

【Configuration case】

Case 1: Create a single-service virtual port 3, the service vlan is 100, the vlan tag conversion mode is set to the default mode, and the traffic template named test is bound.

```
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)#
```

29.1.2.Create a multi-service virtual port

Command syntax	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>]} outbound {[index <Traffic profile index>]|[name <Traffic profile name>]}
Applicable view	config view
Function Description	This command is used to create a multi-service virtual port. The multi-service virtual port service means that a user port needs to carry multiple services, and the service types must be distinguished.
<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<autoindex>	When creating a service virtual port, you can specify an index value or not. If not specified, the system automatically assigns free index values.
<vlan-id>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<ont-id>	ID of the ONT. Use this parameter when you need to set the service virtual port of the specified ONT, or delete all service virtual ports under the specified ONT. The value range is 1-128
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
multi-service	Indicates multi-service virtual port services. The multi-service virtual port service means that a user port needs to carry multiple services, and the service types must be distinguished.
<user-vlan-id>	User-side VLAN ID. Use this parameter when users need to be distinguished by user-side VLAN. The value range is from 1-4094
<priority>	User side priority. Use this parameter when users need to be distinguished by user-side priority. The value range is 0-7
ethertype	User-side service Ethernet type. This parameter is used when users need to be distinguished by user-side service encapsulation type.

	Value range: pppoe, ipv6oe, ipv4oe When the packets on the user side are PPPoE packets (that is, packets with the Ethernet type of 0x8863 and 0x8864), use "pppoe". When the packets on the user side are IPv6 packets (that is, packets whose ether type is 0x86dd), use "ipv6oe". When the user-side packets are other than "pppoe" and "ipv6oe" packets (that is, packets whose Ethernet type is not 0x8863, 0x8864, or 0x86dd;), use "ipv4oe".
Tag-action	For details, please refer to Table 1 in this chapter
inbound	Ingress port direction
outbound	Outgoing port direction
<Traffic profile index>	Index of traffic templates
<Traffic profile name>	Traffic template name

【Configuration case】

Case 1: Create a multi-service virtual port 5, the service vlan is 100, the user vlan is also 100, the vlan tag conversion mode is set to transparent transmission mode, and the traffic template named test is bound.

```
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)#
```

29.1.3.Automatically configure bulk single-service virtual ports

Command syntax	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>]}**
Applicable view	config view
Function Description	This command is used to automatically configure single-service virtual ports for all ONUs under the same PON port.
<vlan-id>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094

<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
Tag-action	For details, please refer to Table 1 in this chapter
inbound	Ingress port direction
outbound	Outgoing port direction
<Traffic profile index>	Index of traffic templates
<Traffic profile name>	Traffic template name

【Configuration case】

Case 1: Automatically configure a vlan100 for all ONUs corresponding to the PON3 port, set the conversion mode to default, and bind the single service flow of the traffic template 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)#
```

29.1.4.Automatically configure batch multi-service virtual ports

Command syntax	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>]}**
Applicable view	config view
Function Description	This command is used to automatically configure multi-service virtual ports for all ONUs under the same PON port.
<vlan-id>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094

<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<ont-id>	ID of the ONT. Use this parameter when you need to set the service virtual port of the specified ONT, or delete all service virtual ports under the specified ONT. The value range is 1-128
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
multi-service	Indicates multi-service virtual port services. The multi-service virtual port service means that a user port needs to carry multiple services, and the service types must be distinguished.
<user-vlan-id>	User-side VLAN ID. Use this parameter when users need to be distinguished by user-side VLAN. The value range is from 1-4094
Tag-action	For details, please refer to Table 1 in this chapter
inbound	Ingress port direction
outbound	Outgoing port direction
<Traffic profile index>	Index of traffic templates
<Traffic profile name>	Traffic template name

【Configuration case】

Case 1: Automatically configure a service vlan100 for the corresponding ONU under the PON3 port, the user side vlan100, the vlan conversion mode is transparent transmission, and the multi-service flow of the traffic template named test is bound

```
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)#
```

29.1.5.Configuring the service virtual port creation mode

Command syntax	OLT(config)# **service-port automode gpon <frameid/slotid> port<port-id> <auto|manual>**

Applicable view	config view
Function Description	This command is used to configure the creation mode of the service-required port for the PON port.
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<create mode>	auto: auto-create mode manual : create the schema manually

【Configuration case】

Case 1: Set the service virtual port creation mode under the PON1 port to manual mode

```
OLT(config)# service-port automode gpon 0/0 port 1 manual
config service-port automode complete, total 1, failed 0.

OLT(config)#
```

29.1.6.Configuring service virtual port description information

Command syntax	OLT(config)# **service-port desc <service-port-index> <description>**
Applicable view	config view
Function Description	This command is used to set the description information of the service virtual port. To facilitate maintenance, you can use this command to set identification information for the service virtual port. After the service virtual port description information is successfully set, the service virtual port description information can be used.
<service-port-index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<description>	Service virtual port description information, character range: 1-64

【Configuration case】

Case 1: Set the description information of service virtual port 3 to test

```
OLT(config)# service-port desc 3 test

OLT(config)#
```

29.1.7.Configuring a Service Virtual Port Performance Statistics

Switch

Command syntax	OLT(config)# **service-port statistics performance {<service-port-index>|<all>|[gpon<frameid/slotid> port<port-id>]} {disable|enable}**
Applicable view	config view
Function Description	This command is used to enable or disable the performance statistics function of the service virtual port.
<service-port-index>	The index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<all>	All service virtual ports
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
disable|disable	disable: Disable the performance statistics function of service virtual ports enable: Enable the service virtual port performance statistics function

【Configuration case】

Case 1: Enable the performance statistics function of service virtual port 3

```
OLT(config)# service-port statistics performance 3 enable

OLT(config)#
```

29.1.8.Configure service virtual port performance statistics clearing

Command syntax	OLT(config)# **service-port statistics performance {<service-port-index>|<all>|[gpon<frameid/slotid> port<port-id>]} clear**
Applicable view	config view
Function Description	This command is used to clear the performance statistics of service virtual ports
<service-port-index>	The index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>

<all>	All service virtual ports
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16

【Configuration case】

Case 1: Clear performance statistics of service virtual port 3

```
OLT(config)# service-port statistics performance 3 clear

OLT(config)#
```

29.1.9.Configuring the Management Status of Service Virtual Ports

Command syntax	OLT(config)# **service-port <service-port-Start_index > <service-port-End_index > adminstatus {disable|enable}**
Applicable view	config view
Function Description	This command is used to set the management status of single or multiple service virtual ports
<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<service-port-End_index>	Service virtual port termination index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
disable|enable	disable: disable service virtual port enable: enable service virtual port

【Configuration case】

Case 1: Close service virtual ports 1-3

```
OLT(config)# service-port 1 3 adminstatus disable
config service-port admin status, failed 0.

OLT(config)#
```

Case 2: Open service virtual port 1

```
OLT(config)# service-port 1 adminstatus enable

OLT(config)#
```

29.1.10.Modify the vlan conversion mode of the service virtual port

Command syntax	OLT(config)# **service-port <service-port-Start_index > <service-port-End_index > tag-action {add-double|default|translate|translate-and-add|transparent}**
Applicable view	config view
Function Description	This command is used to quickly modify the VLAN tag switching mode of the service virtual port. After using the service-port command to add a service virtual port, for a user service, only the VLAN tag switching method needs to be changed (for example, the operator needs to add or delete the number of VLAN tag layers in user packets according to the VLAN usage plan, etc.), other When the parameters do not change, you can use this command to modify the VLAN tag switching mode of the service virtual port without re-creating the service virtual port.
<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<service-port-End_index>	Service virtual port termination index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
Tag-action	For details, please refer to Table 1 in this chapter

【Configuration case】

Case 1: Modify the vlan conversion mode of service virtual port 1 to default

```
OLT(config)# service-port 1 tag-action default
modify service-port tagAction success

OLT(config)#
```

Case 2: Modify the vlan conversion mode of service virtual ports 1-3 to default

```
OLT(config)# service-port 1 3 tag-action default
modify service-port tagAction complete !!! fail:0

OLT(config)#
```

29.1.11.Modify the traffic template referenced by the service virtual port

Command syntax	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>]}
Applicable view	config view
Function Description	This command is used to quickly modify the traffic profile referenced by the service virtual port. After the service virtual port is added using the service-port command , if you only need to change the content of the parameters carried by the traffic template for a certain user service, and other parameters remain unchanged, you can use this command to change the referenced service virtual port without re-creating the service virtual port. flow template.
<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<service-port-End_index>	Service virtual port termination index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
inbound	Ingress port direction
outbound	Outgoing port direction
<Traffic profile index>	Index of traffic templates
<Traffic profile name>	Traffic template name

【Configuration case】

Case 1: Modify the service virtual port 3 and re-bind the traffic template to the 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)#
```

Case 2: Modify the service virtual port 1-3 and re-bind the traffic template to the 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)#
```

29.2.delete service-port

29.2.1.Delete service virtual port

Command syntax	OLT(config)# **no service-port {<service-port-Start_index > {<service-port-End_index >|<all>}**
Applicable view	config view
Function Description	This command is used to delete the created service virtual port.
<service-port-Start_index>	The starting index value of the service virtual port. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<service-port-End_index>	Service virtual port termination index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
< all>	All service virtual ports

【Configuration case】

Case 1: Deleting service virtual port 2

```
OLT(config)# no service-port 2

OLT(config)#
```

Case 2: Deleting service virtual ports 2-3

```
OLT(config)# no service-port 2 3
cancel service-port complete, failed_count 0

OLT(config)#
```

Case 3: Delete all single-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)#
```

29.2.2.Delete the corresponding service virtual port under the PON port

Command syntax	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>] }**
Applicable view	config view
Function Description	This command is used to delete all service virtual ports under the PON port or corresponding to a single ONU.
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16
<ont-id>	ID of the ONT. Use this parameter when you need to set the service virtual port of the specified ONT, or delete all service virtual ports under the specified ONT. The value range is 1-128
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
<user-vlan-id>	User-side VLAN ID. Use this parameter when users need to be distinguished by user-side VLAN. The value range is from 1-4094
<priority>	User side priority. Use this parameter when users need to be distinguished by user-side priority. The value range is 0-7
ethertype	User-side service Ethernet type. This parameter is used when users need to be distinguished by user-side service encapsulation type. Value range: pppoe, ipv6oe, ipv4oe When the packets on the user side are PPPoE packets (that is, packets with the Ethernet type of 0x8863 and 0x8864), use "pppoe". When the packets on the user side are IPv6 packets (that is, packets whose ether type is 0x86dd), use "ipv6oe". When the user-side packets are other than "pppoe" and "ipv6oe" packets (that is, packets whose Ethernet type is not 0x8863, 0x8864, or 0x86dd;), use "ipv4oe".

【Configuration case】

Case 1: Delete all service virtual ports corresponding to the PON3 port

```
OLT(config)# no service-port gpon 0|0 port 3

OLT(config)#
```

Case 2: Delete the service virtual port corresponding to ONT1 under PON3 port

```
OLT(config)# no service-port gpon 0|0 port 3 ont 1 gemport 1 user-vlan 100

OLT(config)#
```

29.2.3.Delete the service virtual port corresponding to the VLAN

Command syntax	OLT(config)# **no service-port vlan <start_vlan-id> <end_vlan-id>** OLT(config)# **no service-port vlan <start_vlan-id> gpon <frameid/slotid> port <port-id>**
Applicable view	config view
Function Description	This command is used to delete service virtual ports corresponding to multiple or single VLANs.
<start_vlan-id>	Start vlan ID
<end_vlan-id>	Terminate vlan ID
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16

【Configuration case】

Case 1: Delete vlan100, the service virtual port under the PON3 port

```
OLT(config)# no service-port vlan 100 gpon 0|0 port 3

OLT(config)#
```

Case 2: Delete the service virtual port corresponding to vlan 100-101

```
OLT(config)# no service-port vlan 100 101

OLT(config)#
```

29.2.4.Delete the traffic template referenced by the service virtual port

Command syntax	OLT(config)# **no service-port <service-port-Start_index > [<service-port-End_index >] traffic-profile <inbound> <outbound>**
Applicable view	config view
Function Description	This command is used to delete the traffic template referenced by the created service virtual port.
<service-port-Sta	The starting index value of the service virtual port. When you need

rt_index>	to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<service-port-End_index>	Service virtual port termination index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<inbound>	Ingress port direction
<outbound>	Outgoing port direction

【Configuration case】

Case 1: Delete the traffic template referenced in the inbound direction of service virtual port 2

```
OLT(config)# no service-port 2 traffic-profile inbound
cancel the service-port traffic profile success.

OLT(config)#
```

Case 2: Delete the traffic profile referenced in the outbound direction of service virtual ports 2-3

```
OLT(config)# no service-port 2 3 traffic-profile outbound
cancel service-port traffic profile complete!!! fail_num:0

OLT(config)#
```

29.2.5.Delete service virtual port description information

Command syntax	OLT(config)# **no service-port desc <service-port-index>**
Applicable view	config view
Function Description	This command is used to delete the description information of the service virtual port
<service-port-index>	Service virtual port index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>

【Configuration case】

Case 1: Descriptive information of port 3 is required to delete services

```
OLT(config)# no service-port desc 1

OLT(config)#
```

29.3.View service-port

29.3.1.View single or all service virtual ports

Command syntax	OLT(config)# **show service-port {<service-port-index > |<all>}**
Applicable view	config view
Function Description	This command is used to view the created service virtual port.
<service-port-index>	Service virtual port index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
< all>	All service virtual ports

【Configuration case】

Case 1: View 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)#
```

Case 2: View 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 manaul
2 100 0/0/3 1 1 vlan 100 transparent - - - - down manaul
---------------------------------------------- ---------------------------------------------- -------
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)#
```

29.3.2.View the automatically configured service virtual port

Command syntax	OLT(config)# **show service-port autoconfig**
Applicable view	config view
Function Description	This command is used to view the automatically configured service virtual port.

【Configuration case】

Case 1: View the automatically configured service virtual port

```
OLT(config)# show service-port autoconfig
---------------------------------------------- ----------------------------------
PORT SVLAN GEM FLOW FLOW TAG INNER INNER RX TX SWITCH
ID PORT TYPE PARA ACTION VLAN PRI
---------------------------------------------- ----------------------------------
0/0/1 1 1 vlan 1 transparent - - - - auto
0/0/2 1 1 vlan 1 transparent - - - - auto
0/0/3 1 1 vlan 1 transparent - - - - auto
0/0/4 1 1 vlan 1 transparent - - - - auto
0/0/5 1 1 vlan 1 transparent - - - - auto
0/0/6 1 1 vlan 1 transparent - - - - auto
0/0/7 1 1 vlan 1 transparent - - - - auto
0/0/8 1 1 vlan 1 transparent - - - - auto
0/0/9 1 1 vlan 1 transparent - - - - auto
0/0/10 1 1 vlan 1 transparent - - - - auto
0/0/11 1 1 vlan 1 transparent - - - - auto
0/0/12 1 1 vlan 1 transparent - - - - auto
0/0/13 1 1 vlan 1 transparent - - - - auto
0/0/14 1 1 vlan 1 transparent - - - - auto
0/0/15 1 1 vlan 1 transparent - - - - auto
```

```
0/0/16 1 1 vlan 1 transparent - - - - auto
---------------------------------------------- ------------------------------------

OLT(config)#
```

29.3.3.Query service virtual ports based on service VLANs

Command syntax	OLT(config)# **show service-port vlan <start_vlan-id> [(exclude|include) STRING]**
Applicable view	config view
Function Description	This command is used to view the service virtual ports corresponding to single or multiple service VLANs.
<start_vlan-id>	Start vlan ID
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16

【Configuration case】

Case 1 : View the service virtual port corresponding to vlan100 under 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 manaul
7 100 0/0/14 1 1 v/p 100/1 transparent - - - - up manaul
---------------------------------------------- ------------------------------------------------- -------
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)#
```

29.3.4.Query service virtual ports based on user-side packet types

Command syntax	OLT(config)# **show service-port ethertype {ipv4oe|ipv6oe|pppoe }**
Applicable view	config view
Function Description	This command can query the service virtual port according to the user-side packet type

ethertype	User-side service Ethernet type. This parameter is used when users need to be distinguished by user-side service encapsulation type. Value range: pppoe, ipv6oe, ipv4oe When the packets on the user side are PPPoE packets (that is, packets with the Ethernet type of 0x8863 and 0x8864), use "pppoe". When the packets on the user side are IPv6 packets (that is, packets whose ether type is 0x86dd), use "ipv6oe". When user-side packets are other than "pppoe" and "ipv6oe" packets (that is, packets whose Ethernet type is not 0x8863, 0x8864, or 0x86dd;), use "ipv4oe".

【Configuration case】

Case 1: View the service virtual port whose user-side packets are 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 manaul
------------------------------------------------ ------------------------------------------------------------ -------
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)#
```

29.3.5.Query service virtual ports based on user-side VLANs

Command syntax	OLT(config)# **show service-port user-vlan <user-vlan-id>**
Applicable view	config view
Function Description	This command can query the service virtual port according to the user-side vlan
<user-vlan-id>	User-side VLAN ID, ranging from 1 to 4094

【Configuration case】

Case 1: View the service virtual port whose user side vlan is 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)#
```

29.3.6.Query service virtual ports based on user-side VLAN priority

Command syntax	OLT(config)# **show service-port user-8021p <priority> user-vlan <user-vlan-id>**
Applicable view	config view
Function Description	This command can query the service virtual port according to the user-side VLAN priority.
<user-vlan-id>	User-side VLAN ID. Use this parameter when users need to be distinguished by user-side VLAN. The value range is from 1-4094
<priority>	User side priority. Use this parameter when users need to be distinguished by user-side priority. The value range is 0-7

【Configuration case】

Case 1: View vlan100 on the user side, the service virtual port with priority 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)#
```

29.3.7.Check the service virtual port under the PON port

Command syntax	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>] }**
Applicable view	config view
Function Description	This command is used to view the service virtual ports corresponding to all or a single ONU under the PON port.
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<Start_port-id>	Start port number, the value range is 1-16
<End_port-id>	Termination port number, the value range is 1-16
<ont-id>	ID of the ONT. Use this parameter when you need to set the service virtual port of the specified ONT, or delete all service virtual ports under the specified ONT. The value range is 1-128
<gemport-id>	Gemport identifies the service virtual channel between the OLT and the ONT, that is, the channel that carries the service flow. GEM PortID refers to a uniform number within each PON port. The value range is 1-30
<user-vlan-id>	User-side VLAN ID. Use this parameter when users need to be distinguished by user-side VLAN. The value range is from 1-4094
<priority>	User side priority. Use this parameter when users need to be distinguished by user-side priority. The value range is 0-7
ethertype	User-side service Ethernet type. This parameter is used when users need to be distinguished by user-side service encapsulation type. Value range: pppoe, ipv6oe, ipv4oe When the packets on the user side are PPPoE packets (that is, packets with the Ethernet type of 0x8863 and 0x8864), use "pppoe". When the packets on the user side are IPv6 packets (that is, packets whose ether type is 0x86dd), use "ipv6oe". When user-side packets are other than "pppoe" and "ipv6oe" packets (that is, packets whose Ethernet type is not 0x8863, 0x8864, or 0x86dd;), use "ipv4oe".

【Configuration case】

Case 1: View all service virtual ports 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 manaul
1 1 0/0/2 2 1 vlan 1 transparent - - - - down auto
3 101 0/0/2 2 1 vlan 101 transparent - - - - down manaul
5 1 0/0/2 3 1 vlan 1 transparent - - - - down auto
9 101 0/0/2 4 1 vlan 101 transparent - - - - up manaul
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)#
```

Case 2: View the corresponding service virtual port under the PON2 port

```
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 manaul
1 1 0/0/2 2 1 vlan 1 transparent - - - - down auto
3 101 0/0/2 2 1 vlan 101 transparent - - - - down manaul
5 1 0/0/2 3 1 vlan 1 transparent - - - - down auto
9 101 0/0/2 4 1 vlan 101 transparent - - - - up manaul
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)#
```

29.3.8.View the configuration of the current service virtual port

Command syntax	OLT(config)# **show current-config section service-port (all|service-port -id) [(include|exclude) STRING]**
Applicable view	config view
Function Description	This command checks the current configuration of the service virtual port

service-port- id	Specifies the service virtual port, the value range is 0-4000.
include	Match mac addresses that contain regular expressions
exclude	Match mac addresses that do not contain regular expressions
STRING	Regular expression, length 1-64 bytes

【Configuration case】

Case 1: View the current real-time configuration of all service virtual ports.

```
OLT(config)# show current-config section service-port all

!
service-port 0 vlan 400 gpon 0/0 port 8 ont 1 gemport 1 multi-service user-vlan 400 tag-action transparent
service-port autoconfig vlan transparent gpon 0/0 port 1 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 2 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 3 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 4 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 5 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 6 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 7 gemport 1
service-port autoconfig vlan transparent gpon 0/0 port 8 gemport 1
!

OLT(config)#
```

29.3.9.Query service virtual port performance statistics switch

Command syntax	OLT(config)# **show service-port statistics performance switch {<service-port-index>|<all>|[gpon<frameid/slotid> port<port-id>]}**
Applicable view	config view
Function Description	This command is used to view the performance statistics function of the service virtual port.
<service-port-index>	Service virtual port index value. When you need to set the service virtual port according to the index value, use this parameter , the value range is <0-8100>
<all>	All service virtual ports
<frameid/slotid>	Used to identify the frame number/slot number, default 0/0
<port-id>	Port number, the value range is 1-16

【Configuration case】

Case 1: Querying the status of performance statistics on service virtual port 1

```
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)#
```

Case 2: Querying the performance statistics switch status of all service virtual ports

```
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)#
```

Case 3: Query the performance statistics switch status of all service virtual ports under the 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)#
```

29.4.gemport traffic statistics

29.4.1.View gem port statistics

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics gemport *<port-ID> < ONT-id > <GEM-id>***
Applicable view	gpon view
Function Description	View gemport traffic statistics
<port-ID>	The port number to be viewed, in the range of 1-16.
< ONT -ID>	ONT to be viewed , the value range is 1-128 .
<GEM-id>	GEM to be viewed , the value range is 1-30 .

【Configuration case】

Case 1: View the statistics of gem1 port of ONU1 of PON8

```
OLT(config-interface-gpon-0/0)# show statistics gemport 8 1 1
---------------------------------------------- ----------------------------------------
Upstream frames : 0
Upstream bytes : 0

Downstream frames : 0
Downstream bytes : 0
---------------------------------------------- ----------------------------------------

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

29.4.2.View default gem port traffic statistics

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics gemport <port-ID> default-gem-port**
Applicable view	gpon view
Function Description	View the traffic statistics of the default gem port

<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View the default gem port statistics of pon1

```
OLT(config-interface-gpon-0/0)# show statistics gemport 1 default-gem-port
---------------------------------------------- ----------------------------------
Upstream frames : 0
Upstream bytes : 0

Downstream frames : 0
Downstream bytes : 0
---------------------------------------------- ----------------------------------
OLT(config-interface- gpon -0 / 0)#
```

29.4.3.Viewing multicast gem port traffic statistics

Command syntax	OLT(config-interface-gpon -0/0)# **show statistics gemport <port-ID> multicast-gem-port**
Applicable view	gpon view
Function Description	Viewing multicast gem port traffic statistics
<port-ID>	The port number to be viewed, in the range of 1-16.

【Configuration case】

Case 1: View the statistics of the multicast gem port of pon1

```
OLT(config-interface-gpon-0/0)# show statistics gemport 1 multicast-gem-port
---------------------------------------------- ----------------------------------
Upstream frames : 0
Upstream bytes : 0

Downstream frames : 541
Downstream bytes: 109021
---------------------------------------------- ----------------------------------

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

29.4.4.Reset gem port traffic statistics

Command	OLT(config-interface-gpon -0/0)# **reset statistics gemport <port-ID> <**

syntax	**ONT-id > <GEM-id>**
Applicable view	gpon view
Function Description	Reset gem port traffic statistics
<port-ID>	to be reset , the value range is 1-16.
< ONT -ID>	The ONT to be reset , the value range is 1-128 .
<GEM-id>	The GEM to reset , the value range is 1-30 .

【Configuration case】

Case 1: Reset the traffic statistics of GEM1 in ONU1 of pon8

```
OLT(config-interface-gpon-0/0)# reset statistics gemport 8 1 1
OLT(config-interface-gpon-0/0)#
```

29.4.5.Reset default gem port traffic statistics

Command syntax	OLT(config-interface-gpon -0/0)# **reset statistics statistics gemport <port-ID> default-gem-port**
Applicable view	gpon view
Function Description	Reset default gem port traffic statistics
<port-ID>	to be reset , the value range is 1-16.

【Configuration case】

Case 1: Reset pon1 default gem port traffic statistics

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

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

29.4.6.Reset multicast gem port traffic statistics

Command syntax	OLT(config-interface-gpon -0/0)# **reset statistics gemport <port-ID> multicast-gem-port**
Applicable view	gpon view
Function	Reset multicast gem port traffic statistics

Description	
<port-ID>	to be reset , the value range is 1-16.

【Configuration case】

Case 1: Reset the traffic statistics of the multicast gem port under pon1

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

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

30.Log management and query

30.1.Add log server

Command syntax	OLT(config)# **syslog add <ip-address> <hostname>**
Applicable view	config view
Function Description	This command is used to increase the syslog server. A large amount of log information will be generated when the device is running, and the storage space of the device itself is relatively limited. Use this command when you need to configure a log server to collect and store device logs. After the syslog server is successfully added, some important information of the device can be recorded on the host (also called the log server) through the syslog mechanism.
<ip-address>	The IP address of the syslog server.
< Hostname >	syslog server name. The identifier added when creating a syslog server to distinguish other syslog servers is used to uniquely identify a syslog server.

【Configuration case】

Case 1: Add a syslog server, the IP address is 192.168.1.223, and the server name is log.

```
OLT(config)# syslog add 192.168.1.223 log
Add syslog host successful!
OLT(config)#
```

30.2.delete log server

Command syntax	OLT(config)# **syslog delete ip <ip-address>|name <hostname>**

Applicable view	config view
Function Description	This command is used to delete the log host. Use this command when a log host IP address has changed or is no longer in use. After successfully deleting a log host, you can set another host as the log host or reset the IP address of the original log host.
<ip-address>	The IP address of the syslog server.
< Hostname >	syslog server name. The identifier added when creating a syslog server to distinguish other syslog servers is used to uniquely identify a syslog server.

【Configuration case】

Case 1: Delete the syslog server, the IP address is 192.168.2.245, and the server name is test .

```
OLT(config)# syslog delete ip 192.168.2.245 name test
Delete syslog host successful!
OLT(config)#
```

30.3.Configure the log server log switch

Command syntax	OLT(config)# **syslog operlog < switch >**
Applicable view	config view
Function Description	This command is used to configure whether the OLT logs are sent to the log server.
< switch >	e nable : The log of the OLT is sent to the log server disable : OLT logs are not sent to the log server

【Configuration case】

Case 1: Configure OLT logs not to be sent to the log server

```
OLT(config)# syslog operlog disable

OLT(config)#
```

30.4.Configuring the log server alarm log switch

Command syntax	OLT(config)# **syslog alarmlog < switch >**
Applicable view	config view

Function Description	This command is used to configure whether the OLT alarm log is sent to the log server.
< switch >	Enable : The alarm log of the OLT is sent to the log server Disable : OLT alarm logs are not sent to the log server

【Configuration case】

Case 1: Configure OLT alarm logs not to be sent to the log server

```
OLT(config)# syslog alarmlog disable

OLT(config)#
```

30.5.Activate log server host

Command syntax	OLT(config)# **syslog activate ip <ip-address>|name <hostname>**
Applicable view	config view
Function Description	This command is used to activate the log saving server . Use this command when setting the log information output control level or the information output switch state to activate the log to the server . After the log server is successfully activated , the system reports log information to the corresponding server .
<ip-address>	The IP address of the syslog server.
< Hostname >	Syslog server name. The identifier added when creating a syslog server to distinguish other syslog servers is used to uniquely identify a syslog server.

【Configuration case】

Case 1: Activate the server saved by syslog , the IP address is 192.168.2.223, and the server name is syslog .

```
OLT(config)# syslog activate ip 192.168.2.223 name syslog
Activate syslog host successful!


OLT(config)#
```

30.6.Deactivate the log server host

Command syntax	OLT(config)# **syslog deactivate ip <ip-address>|name <hostname>**

Applicable view	config view
Function Description	This command is used to deactivate a log saving server . Use this command when an active log server is not used temporarily and the active status of the log server needs to be modified . After a log server is successfully deactivated , the system no longer reports log information to the log server .
<Destination-IP >	The IP address of the syslog server.
< Hostname >	syslog server name. The identifier added when creating a syslog server to distinguish other syslog servers is used to uniquely identify a syslog server.

【Configuration case】

Case 1: Deactivate the syslog server, the IP address is 192.168.2.223, and the server name is syslog .

```
OLT(config)# syslog deactivate ip 192.168.2.223 name syslog
Deactivate syslog host successed!

OLT(config)#
```

30.7.View log server host configuration information

Command syntax	OLT(config)# **show syslog list**
Applicable view	config view
Function Description	This command is used to query the configuration information of the syslog server. Use this command when you need to query the IP address, host name, host status and other information of the syslog server.

【Configuration case】

Case 1: View the log server host configuration information.

```
OLT(config)# show syslog list
------------------------------------------------ -------------------------
IP address Host name Terminal state
192.168.2.223 syslog active
------------------------------------------------ -------------------------

OLT(config)#
```

30.8.Manually backing up OLT logs (FTP)

Command syntax	OLT(config)# **backup log ftp <server-ip-address> <user-name> <user-password> <filename>**
Applicable view	enable view, config view
Function Description	This command is used to manually save the log to the ftp server.
<server-ip-address>	The ip address of the ftp server .
<user-name>	ftp login username .
<user-password>	ftp login password .
<filename>	The name of the file where the log is saved .

【Configuration case】

Case 1: Save the log to the ftp server. The IP address of the ftp server is: 192.168.1.223, the user name is admin, the password is admin, and the file name is log.

```
OLT(config)# backup log ftp 192.168.1.223 admin admin logback
Start backup log files
The backup is successful
```

30.9.Manually backing up OLT logs (TFTP mode)

Command syntax	OLT(config)# **backup log ftp <server-ip-address> <filename>**
Applicable view	enable view, config view
Function Description	This command is used to manually save the log to the tftp server.
<server-ip-address>	The ip address of the tftp server .
<filename>	The name of the file where the log is saved .

【Configuration case】

Case 1: Save the log to the tftp server, the IP address of the tftp server is: 192.168.1.223, and the file name is log.

```
OLT(config)# backup log tftp 192.168.1.223 logback
Start backup log files
```

```
The backup is successful
```

30.10.Delete OLT logs

Command syntax	OLT(config)# **erase log**
Applicable view	config view
Function Description	Clear the log information of the OLT .

【Configuration case】

Case 1: Clear the log information of the OLT .

```
OLT(config)# erase log

OLT(config)#
```

30.11.View all OLT logs

Command syntax	OLT(config)# **show log [type (operate | logon)]**
Applicable view	config view
Function Description	This command is used to view all logs of OLT .
type	View log information by type
operate	Operation type log information
logon	login type log information

【Configuration case】

Case 1: Query all logs 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)#
```

31.Alarm management and query

31.1.Clear the specified active alarm entry

Command syntax	OLT(config)# **alarm active clear <alarm-raising-number>**
Applicable view	config view
Function Description	This command is used to clear the specified alarm entry
< alarm-raising-number >	Press the alarm serial number to clear active alarms. This parameter is used when the active alarm corresponding to an alarm serial number needs to be cleared. Value range: 1-4294967294 . You need to use the commands alarm output detail on and show alarm active all to view the alarm serial number .

【Configuration case】

Case 1: Clear the active alarm entry with serial number 2 .

```
OLT(config)# alarm active clear 2
OLT( config)#
```

31.2.Clear the active alarm log of the specified level

Command syntax	OLT(config)# **alarm active clear alarmlevel <alarmlevel id >**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified level
<alarmlevel id >	1- Critical , severe 2- major , important 3- minor , minor 4- warning , warning

【Configuration case】

Case 1: Clear the active alarm log with warning level .

```
OLT(config)# alarm active clear alarmlevel 4

OLT(config)#
```

31.3.Clear the activity alarm log of the specified board

Command syntax	OLT(config)# **alarm active clear alarm parameter board <F/S >**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified board.
<F/S>	Card slot number, the value is 0/0

【Configuration case】

Case 1: Clear the active alarm log of board 0/0 .

```
OLT(config)# alarm active clear alarmparameter board 0/0

OLT(config)#
```

31.4.Clear the active alarm log of the specified GE port

Command syntax	OLT(config)# **alarm active clear alarm parameter ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified GE port
<F/S /P>	Uplink GE port number, ranging from 0/0/1 – 0/ 0/4

【Configuration case】

Case 1: Clear the active alarm log of the g e1 port .

```
OLT(config)# alarm active clear alarmparameter ge 0/0/1

OLT(config)#
```

31.5.Clear the active alarm log of the specified PON port

Command syntax	OLT(config)# **alarm active clear alarm parameter pon <F/S /P>**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified PON port .

<F/S /P>	PON port number, ranging from 0/0/1 – 0/ 0/16

【Configuration case】

Case 1: Clear the active alarm log of the g e1 port .

```
OLT(config)# alarm active clear alarmparameter pon 0/0/1

OLT(config)#
```

31.6.Clear the active alarm log of the specified XGE port

Command syntax	OLT(config)# **alarm active clear alarm parameter x ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified XG E port .
<F/S /P>	Uplink XGE port number, the value is 0/0/1 – 0/ 0/2

【Configuration case】

Case 1: Clear the active alarm log of the xg e1 port .

```
OLT(config)# alarm active clear alarmparameter x ge 0/0/1

OLT(config)#
```

31.7.Configure the alarm level of the specified alarm entry

Command syntax	OLT(config)# **alarm alarmlevel < alarm-ID> <alarmlevel id >**
Applicable view	config view
Function Description	This command is used to configure the alarm level of the specified alarm entry.
< alarm-ID>	Serial number of the alarm entry, the value range is 1-4294967294
<alarmlevel id >	0- Default , to revert to the default level 1- critical , serious 2- error , important 3- warning , warning

【Configuration case】

Case 1: Configure the level of alarm 102 to be 1 (serious) .

```
OLT(config)# alarm alarmlevel 102 1
OLT(config)#
```

31.8.Enabling and Configuring the Alarm Anti-jitter Period

Command syntax	OLT(config)# **alarm jitter-interval < interval >**
Applicable view	config view
Function Description	This command is used to configure the alarm anti-jitter period. When this command is executed, the alarm jitter is enabled and the configuration value takes effect. The system alarm will wait for an alarm anti-jitter period before being reported to the network management. If the alarm status recovers during an alarm anti-jitter period, the Alarms will not be reported to the NMS.
< interval >	Alarm period value, the value range is 1-60 , the unit is second

【Configuration case】

Case 1: Configure the alarm anti-jitter period to 3 seconds .

```
OLT(config)# alarm jitter-interval 3

OLT(config)#
```

31.9.Disable the alarm anti-jitter function

Command syntax	OLT(config)# **alarm jitter- proof disable**
Applicable view	config view
Function Description	This command is used to disable the alarm anti-jitter function. i.e. 0 seconds

【Configuration case】

Case 1: Disable the alarm anti-jitter function .

```
OLT(config)# alarm jitter-proof disable

OLT(config)#
```

31.10.Configure the output switch of the specified alarm entry

Command syntax	OLT(config)# **alarm output alarmid <alarm - ID> [gpon (F/S <Port ID>|all)] <switch>**

Applicable view	config view
Function Description	This command is used to enable or disable the output of the specified alarm entry. In the enabled state, the specified alarm entry is allowed to be reported to the NMS output; in the disabled state, the specified alarm entry is not allowed to be reported to the NMS output.
<alarm - ID>	Serial number of the alarm entry, the value range is 1-4294967294
<switch>	e enable : enable disable : disable

【Configuration case】

Case 1: Disable the output of the 102nd alarm entry .

```
OLT(config)# alarm output alarmid 102 disable

OLT(config)#
```

31.11.Configure the alarm output switch of the specified level type

Command syntax	OLT(config)# **alarm output alarmlevel <alarm level > <switch>**
Applicable view	config view
Function Description	This command is used to enable or disable the output of alarm entries of specified severity type. When enabled, alarms of the specified severity type are allowed to be reported to the NMS output; when disabled, the specified severity type alarms are not allowed to be reported to the NMS output.
<alarm -level >	1- Critical , severe 2- Major , major 3- Minor , minor 4- Warning , warning
<switch>	e enable : enable disable : disable

【Configuration case】

Case 1: Disable the output of alarms with level 4 (warning) .

```
OLT(config)# alarm output alarmlevel 4 disable
```

```
OLT(config)#
```

31.12.Configure all alarm output switches

Command syntax	OLT(config)# **alarm output all <switch>**
Applicable view	config view
Function Description	This command is used to enable or disable the output of all alarms. When enabled, all alarms are allowed to be reported to the network management output; when disabled, all alarms are not allowed to be reported to the network management output.
<switch>	e enable : enable disable : disable

【Configuration case】

Case 1: Disable the output of all alarms .

```
OLT(config)# alarm output all disable

OLT(config)#
```

31.13.Configuring the Alarm Output Detailed Information Switch

Command syntax	OLT(config)# **alarm output detail <switch>**
Applicable view	config view
Function Description	This command is used to enable or disable the output function of alarm details. When the state is enabled, detailed alarm information is output; when the state is disabled, simple alarm information is output.
<switch>	on: enable off: disable

【Configuration case】

Case 1: Disable the alarm output detail function .

```
OLT(config)# alarm output detail off
OLT(config)#
```

31.14.View the specified active alert entry

Command syntax	OLT(config)# **show alarm active alarm- id <alarm- id >**
Applicable view	config view
Function Description	This command is used to view the specified alarm entry
<alarm- id >	Alarm serial number, the value range is 1-4294967294

【Configuration case】

the active alarm entry with serial number 2 04 .

```
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)#
```

31.15.View active alarms of a specified level

Command syntax	OLT(config)# **show alarm active alarmlevel < alarmlevel id >**
Applicable view	config view
Function Description	This command is used to view the alarm log of the specified level
<alarmlevel id >	0- Default, restore to the default level 1- critical, serious 2- error, important 3- warning, warning

【Configuration case】

Case 1: View the active alarm log 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)#
```

31.16.View active alarm logs of a specified board

Command syntax	OLT(config)# **show alarm active alarm parameter board <F/S >**
Applicable view	config view
Function Description	This command is used to view the active alarm log of the specified board.
<F/S>	Card slot number, the value is 0/0

【Configuration case】

Case 1: View the alarm log 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)#
```

31.17.View active alarm logs of a specified GE port

Command syntax	OLT(config)# **show alarm active alarm parameter ge <F/S /P>**
Applicable view	config view
Function	This command is used to view the active alarm log of the specified

Description	GE port
<F/S /P>	Uplink GE port number, ranging from 0/0/1 – 0/ 0/4

【Configuration case】

Case 1: View the active alarm log of the g e8 port .

```
OLT(config)# show alarm active alarmparameter ge 0/0/8
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME : sni port link down
INSTANCE : GE FrameID: 0, SlotID: 0, PortID: 8
REPEAT TIME : 1
FIRST OCCUR : 2000-01-02 02:48:48
LAST OCCUR : 2000-01-02 02:48:48
DESCRIPTION :

total number : 1

OLT(config)#
```

31.18.View the active alarm log of the specified PON port

Command syntax	OLT(config)# **show alarm active alarm parameter pon <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the active alarm log of the specified PON port .
<F/S /P>	PON port number, ranging from 0/0/1 – 0/ 0/16

【Configuration case】

Case 1: View the active alarm log of the 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)#
```

31.19.View the active alarm log of the specified XGE port

Command syntax	OLT(config)# **show alarm active alarm parameter x ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to clear the active alarm log of the specified XG E port .
<F/S /P>	Uplink XGE port number, the value is 0/0/1 – 0/ 0/2

【Configuration case】

the active alarm log of the xg e1 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 unpluged
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)#
```

31.20.View all alarm logs

Command syntax	OLT(config)# **show alarm active all**
Applicable view	config view
Function Description	This command is used to view all active alarm logs .

【Configuration case】

Case 1: Query all active alarm logs of the OLT .

```
OLT(config)# show alarm active all
ALARM 28 Critical 131082 2000-01-02 04:18:53
ALARM NAME : The sni port is unpluged
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 unpluged
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)#
```

31.21.View the history of the specified alarm entry

Command syntax	OLT(config)# **show alarm history alarmid <alarm- id >**
Applicable view	config view
Function Description	This command is used to view the history of the specified alarm entry
<alarm- id >	Alarm serial number, the value range is

【Configuration case】

the alarm history record with serial number 2 04 .

```
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 :
```

31.22.View the alarm history of the specified severity

Command syntax	OLT(config)# **show alarm history alarmlevel < alarmlevel id >**
Applicable view	config view
Function Description	This command is used to view the alarm history of the specified level
<alarmlevel id >	1- Critical , severe 2- major , important 3- minor , minor 4- warning , warning

【Configuration case】

Case 1: View the alarm history of level 4 .

```
OLT(config)# show alarm history alarmlevel 4
ALARM 38 Cleared 401 2000-01-02 07:07:06
ALARM NAME : uni link up
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 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, ONTID: 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, ONTID: 3, SlotID: 0, Uni: 1
DESCRIPTION :
```

31.23.View the alarm history of a specified board

Command syntax	OLT(config)# **show alarm history alarm parameter board <F/S >**
Applicable view	config view
Function Description	This command is used to view the alarm history of the specified board
<F/S>	Card slot number, the value is 0/0

【Configuration case】

Case 1: View the alarm history 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, ONTID: 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, ONTID: 4, SlotID: 0, Uni: 1
DESCRIPTION :

ALARM 36 Critical 403 2000-01-02 07:05:47
ALARM NAME : ONT ethernet port autoNegotiation failure
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5, SlotID: 0, Uni: 1
DESCRIPTION :
```

31.24.View the alarm history of a specified GE port

Command syntax	OLT(config)# **show alarm history alarm parameter ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the alarm history of the specified GE port
<F/S /P>	Uplink port number, ranging from 0/0/1 – 0/ 0/4

【Configuration case】

the alarm history of the g e8 port .

```
OLT(config)# show alarm history alarmparameter ge 0/0/8
ALARM 18 Critical 203 2000-01-02 02:48:48
ALARM NAME : sni port link down
```

```
INSTANCE : GE FrameID: 0, SlotID: 0, PortID: 8
DESCRIPTION :

ALARM 17 Cleared 203 2000-01-02 02:48:05
ALARM NAME : sni port link up
INSTANCE : GE FrameID: 0, SlotID: 0, PortID: 8
DESCRIPTION :
```

31.25.View the alarm history of the specified PON port

Command syntax	OLT(config)# **show alarm history alarm parameter pon <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the alarm history of the specified PON port .
<F/S /P>	P ON port number, the value is 0/0/1 – 0/ 0/16

【Configuration case】

the alarm history of pon 1 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, ONTID: 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, ONTID: 4, SlotID: 0, Uni: 1
DESCRIPTION :
```

31.26.View the alarm history of the specified XGE port

Command syntax	OLT(config)# **show alarm history alarm parameter x ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the alarm history of the specified XG E port
<F/S /P>	Uplink XGE port number, the value is 0/0/1 – 0/ 0/2

【Configuration case】

the alarm history of the xg e1 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 unpluged
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 pluged
INSTANCE : XGE FrameID: 0, SlotID: 0, PortID: 1
DESCRIPTION :
```

31.27.View all alarm history

Command syntax	OLT(config)# **show alarm history all**
Applicable view	config view
Function Description	This command is used to view all alarm history records .

【Configuration case】

Case 1: Query 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, ONTID: 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, ONTID: 4, SlotID: 0, Uni: 1
DESCRIPTION :
```

31.28.Clear all alarm history

Command syntax	OLT(config)# **alarm history clear all**
Applicable view	config view
Function Description	This command is used to clear all alarm history records .

【Configuration case】

Case 1: Clear all event history .

```
OLT(config)# alarm history clear all
```

31.29.View the alarm anti-jitter period

Command syntax	OLT(config)# **show alarm jitter**
Applicable view	config view
Function Description	This command is used to query the period of alarm anti-jitter .

【Configuration case】

Case 1: Query the alarm anti-jitter period of the OLT .

```
OLT(config)# show alarm jitter
Jitter-Interval : 5s
OLT(config)#
```

31.30.View basic alarm information

Command syntax	OLT(config)# **show alarm list**
Applicable view	config view
Function Description	This command is used to query basic alarm information .

【Configuration case】

Case 1: Query the basic alarm information of the OLT .

```
OLT(config)# show alarm list
------------------------------------------------- --------------------------
AlarmId Output Level Def Level Name
100102 Yes Major Major The board reset
100104 Yes Warning Warning The temperature is abnormal
100105 Yes Major Major The fan is abnormal
100107 Yes Major Major The device power fault
100203 Yes Critical Critical sni port link down
100204 Yes Major Major Port state change disable
100306 Yes Warning Warning Dying gasp(DGi)
100315 Yes Major Major The performance statistics upper crossed
100316 Yes Major Major The performance statistics lower crossed
1000001 Yes Major Major Loss of signal(LOS)
```

```
1000003 Yes Major Major Rogue ONT detected
1000004 Yes Major Major Do not support this tranceiver
1000005 Yes Major Major Loss of signal for ONT(LOSi)
1000006 Yes Major Major Loss of frame for ONT(LOFi)
1000007 Yes Major Major Loss of acknowledgement from ONT(LOAi)
1000008 Yes Major Major Signal fail of ONT(SFi)
1000009 Yes Major Major Signal degrade ONT(SDi)
1000010 Yes Major Major Loss of GEM channel delineation of ONT(LCDGi)
1000012 Yes Major Major ONT does not react correctly after deactive or disable(DFi)
1000013 Yes Major Major PLOAM loss for ONT(LOAMi)
---------------------------------------------------- -------------------------
OLT(config)#
```

31.31.Configuring Bandwidth Threshold Alarms in the Upstream/Downstream Direction of a Port

Command syntax	OLT(config-interface-ge-0/0)# **bandwidth-alarm threshold <port-list> (rx|tx) (enable < value >|disable)**
Applicable view	XGE interface view or GE interface view or GPON view
Function Description	This command is used to configure the bandwidth threshold alarm of the port.
<port-list>	Specify the port number, such as 1, 2.
rx	Ingress , upstream direction
tx	Egress , downstream direction
enable	Enable the bandwidth alarm of the port and set the threshold.
disable	Disable the bandwidth alarm on the port.
value	The threshold that needs to be set. The value range is 512-10485760, and the unit is kbps.

【Configuration case】

Case 1: Enable the bandwidth alarm in the upstream direction of the port and set the threshold to 1024000kbps.

```
OLT(config-interface-ge-0/0)# bandwidth-alarm threshold 1 rx enable 1024000

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

32.Incident management and inquiry

32.1.Configure the specified event level

Command syntax	OLT(config)# **event eventlevel < Event ID > <0-4>**
Applicable view	config view
Function Description	This command is used to configure the specified event level
< Event-ID >	Event ID, uniquely representing an event alarm, the value range is <1-4294967294>
<0-4>	0- Default , the default level 1- critical , serious 2- major , important 3- Minor , minor 4- Warning , warning

【Configuration case】

Case 1: Configure event level 3 (minor) with event ID 10001 .

```
OLT(config)# event eventlevel 10001 3

OLT(config)#
```

32.2.Configure all event output switches

Command syntax	OLT(config)# **event output all < switch >**
Applicable view	config view
Function Description	This command is used to set the output mode of all events in the command line terminal. When the status is enabled, all events can be output on the command line; otherwise, the opposite is true.
< switch >	enable: enable disable : disable

【Configuration case】

Case 1: Turn off all event output functions .

```
OLT(config)# event output all disable

OLT(config)#
```

32.3.Configure event output details switch

Command syntax	OLT(config)# **event output detail < switch >**
Applicable view	config view
Function Description	This command is used to set the switch of the event output detailed information function. When the state is on, the event can output detailed information of the event on the command line; when it is off, only simple event information is output.
< switch >	on : turn on off : off

【Configuration case】

Case 1: Enable the event output detailed information function .

```
OLT(config)# event output detail on

OLT(config)#
```

32.3.1.Enable or disable the output of the specified event

Command syntax	OLT(config)# **event output eventid (< eventid > |all) { gpon F/S (<port-id> | all)} < switch >**
Applicable view	config view
Function Description	This command is used to disable or enable the output of the specified event. When the status is enable, the specified event is allowed to be output on the terminal; when the status is diasble, the specified event is prohibited from being output on the terminal.
<port-id>	Port number, the value range is 1-16
< eventid >	The ID of the event , the value range is <1-4294967294>
< switch >	enable: allow disable : disable

【Configuration case】

Case 1: Allow event 10001 to be output on the terminal .

```
OLT(config)# event output eventid 10001 enable
OLT(config)#
```

32.4.Configuring the alarm output limit information switch

Command	OLT(config)# **alarm output limit (on |off)**

syntax	
Applicable view	config view
Function Description	This command is used to enable or disable the function of limiting the number of output alarm entries per second . When the status is enabled, the maximum number of alarm information is output per second ; when the status is disabled, all the alarm information is output.
<switch>	on: enable off: disable

【Configuration case】

Case 1: Limit the number of output alarm entries .

```
OLT(config)# alarm output limit on
OLT(config)#
```

32.5.Configuring the Number of Alarm Output Limit Entries

Command syntax	OLT(config)# **alarm output limit <limit number>**
Applicable view	config view
Function Description	This command is used to configure the limit number of entries for alarm output
<limit number>	1-1000, the maximum number of alarm entries output per second

【Configuration case】

Case 1: Configure the limit number of alarm entries to be output per second to 100

```
OLT(config)# alarm output limit 100
OLT(config)#
```

32.6.Enable or disable the output of events of the specified level

Command syntax	OLT(config)# **event output eventlevel < eventlevel > < switch >**
Applicable view	config view
Function Description	This command is used to disable or allow the output of events of the specified level. When the state is enable, the events of the specified level are allowed to be output on the terminal; when the state is diasble, the events of the specified level are forbidden to be output

	on the terminal.
< eventlevel >	1- Critical , severe 2- Major , important 3- Minor , minor 4- Warning , warning
< switch >	enable: allow disable : disable

【Configuration case】

Case 1: Events with level 3 (minor) are allowed to be output on the terminal .

```
OLT(config)# event output eventlevel 3 enable

OLT(config)#
```

32.7.View all event history

Command syntax	OLT(config)# **show event history all**
Applicable view	config view
Function Description	This command is used to view all event history .

【Configuration case】

Case 1: Query all event history records .

```
OLT(config)# show event history all
EVENT 13 Warning 13002 2000-01-02 07:05:56
EVENT NAME : ONT is offline
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5

EVENT 12 Warning 13001 2000-01-02 07:05:43
EVENT NAME : ONT is online
INSTANCE : FrameID: 0, SlotID: 0, PortID: 1, ONTID: 5
```

32.8.View the history of the specified event

Command syntax	OLT(config)# **show event history eventid < eventid >**
Applicable view	config view
Function	This command is used to view the history of the specified event .

Description	
<eventid>	Event ID, the value range is 1-4294967294

【Configuration case】

Case 1: Query the history of event 13002 .

```
OLT(config)# show event history 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
```

32.9.View the history of events of a specified level

Command syntax	OLT(config)# show event history eventlevel < eventlevel >
Applicable view	config view
Function Description	This command is used to view the history of events of the specified level .
<eventlevel>	1- Critical , severe 2- Major , important 3- Minor , minor 4- Warning , warning

【Configuration case】

Case 1: Query history records with event level 4 (alarm) .

```
OLT(config)# show event history eventlevel 4
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
```

32.10.View the history of events of a specified board

Command syntax	OLT(config)# **show event history event parameter board <F/S>**
Applicable view	config view
Function Description	This command is used to view the history records of specified board events .
< F/S >	Board number, the value is 0/0

【Configuration case】

Case 1: Query the event history of board 0/0 .

```
OLT(config)# show event history eventparameter board 0/0
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
```

32.11.View the event history of the specified GE port

Command syntax	OLT(config)# **show event history eventparameter ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the event history of the specified GE port
<F/S /P>	Port number, ranging from 0/0/1 – 0/ 0/4

【Configuration case】

Case 1: View the event history of the g e8 port .

```
OLT(config)# show event history eventparameter ge 0/0/4
total number : 0

OLT(config)#
```

32.12.View the event history of the specified PON port

Command syntax	OLT(config)# **show event history eventparameter pon <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the event history of the specified PON port
<F/S /P>	P on slogan, the value is 0/0/1 – 0/ 0/16

【Configuration case】

the event history of pon 1 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
```

32.13.View the event history of the specified XGE port

Command syntax	OLT(config)# **show event history eventparameter x ge <F/S /P>**
Applicable view	config view
Function Description	This command is used to view the event history of the specified XG E port
<F/S /P>	Card slot number, the value is 0/0/1 – 0/ 0/2

【Configuration case】

Case 1: View the event history of the xg e1 port .

```
OLT(config)# show event history eventparameter xge 0/0/1
total number : 0

OLT(config)#
```

32.14.Clear all event history

Command	OLT(config)# **event history clear all**

syntax	
Applicable view	config view
Function Description	This command clears all event history .

【Configuration case】

Case 1: Clear all event history .

```
OLT(config)# event history clear all
```

32.15.View basic information about an event

Command syntax	OLT(config)# **show event list**
Applicable view	config view
Function Description	This command is used to view the basic information of the event

【Configuration case】

Case 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 Warningpon Drv connection Device fail
------------------------------------------------- --------------------------
OLT(config)#
```

33.OLT WEB program management

33.1.Close OLT WEB

Command syntax	OLT(config)# **web server disable**

Applicable view	config view
Function Description	This command is used to close the OLT web login

【Configuration case】

Case 1: Turn off OLT web login

```
OLT(config)# web server disable
Disable web server successful!
```

33.2.Open OLT WEB

Command syntax	OLT(config)# **web server en able**
Applicable view	config view
Function Description	This command is used to enable OLT web login

【Configuration case】

Case 1: Enable OLT web login

```
OLT(config)# web server enable
Enable web server successful!
```

33.3.Uninstall the OLT WEB program

Command syntax	OLT(config)# **web uninstall**
Applicable view	config view
Function Description	This command is used to uninstall OLT web

【Configuration case】

Case 1: Uninstall OLT web program

```
OLT(config)# web uninstall
Uninstall web server successful!
```

33.4.Configure the protocol type of OLT WEB login

Command syntax	OLT(config)# **web server protocol (http|https|both)**

Applicable view	config view
Function Description	This command is used to configure the protocol type of OLT web login.
http **https** **both**	http: log in to the web through the http protocol. https: log in to the web through the https protocol. both: Log in to the web through http protocol or https protocol.

【Configuration case】

Case 1: Log in to the web through the http protocol

```
OLT(config)# web server protocol http
OLT(config)#
```

33.5.View the information of the OLT WEB program

Command syntax	OLT(config)# **show web server**
Applicable view	config view
Function Description	This command is used to view the information of the OLT WEB program.

【Configuration case】

Case 1: Uninstall OLT web program

```
OLT(config)# show web server
Web server status : Disable
Web server http port : 80
Web server https port : 443
Web server protocol : http
Web server login-captcha : Disable
Web version : V2.0.0_220228 (Mon, 28 Feb 2022 09:31:43 +0800)
```

33.6.Enable or disable the WEB verification code login function

Command syntax	OLT(config)# **web login-captcha (enable|disable)**
Applicable view	config view
Function Description	This command is used to enable or disable the WEB verification code login function

【Configuration case】

Case 1: Enable WEB verification code login function

```
OLT(config)# web login-captcha enable
```

34.PPPoE proxy function

34.1.Enable/disable PPPoE proxy function

Command syntax	OLT(config)# **pppoe agent enable/disable**
Applicable view	config view
Function Description	This command is used to enable or disable the PPPoE proxy function. After enabling, the device intercepts the protocol packets in the PPPoE discovery phase, inserts the user's physical information in the upstream direction, strips the user's physical information in the downstream direction, and then forwards them.
enable/disable	disable: Disable the pppoe proxy function. enable: Enable the pppoe proxy function.

【Configuration case】

Case 1: Start the pppoe proxy function

```
OLT(config)# pppoe agent enable
```

34.2.Configuring PPPoE Proxy Forwarding Policy

Command syntax	OLT(config)# **pppoe agent policy (keep|drop|replace)**
Applicable view	config view
Function Description	This command is used to configure the forwarding policy of request packets.
keep	Forward pppoe packets as they are
drop	Directly discard pppoe packets
replace	Replace the original pppoe message and forward it

【Configuration case】

Case 1: Configure the forwarding policy of pppoe to forward according to the original

forwarding policy

```
OLT(config)# pppoe agent policy keep
```

34.3.Configure padding mode for PPPoE options

Command syntax	OLT(config)# **pppoe agent format <format-name>**
Applicable view	config view
Function Description	Configure pppoe proxy format
<format-name>	Item name in pppoe format, length 1-32

【Configuration case】

Case 1: Configure the pppoe proxy format as type5

```
OLT(config)# pppoe agent format type5
```

34.4.Create a custom ascill type PPPoE proxy format item

Command syntax	OLT(config)# **pppoe agent format add ascii name <format-name>{cid <circuit-id> | rid <remote-id>}**
Applicable view	config view
Function Description	Create a custom format item, the field data of this item is filled in ascii format.
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn

【Configuration case】

Case 1: Create a custom acill type pppoe proxy format item, the name is test01, and the rid is the keyword oltmac

```
OLT(config)# pppoe agent format add ascii name test01 rid oltmac
```

34.5.Create custom hex type PPPoE proxy format item

Command syntax	OLT(config)# **pppoe agent format add hex name <format-name>{cid <circuit-id> | rid <remote-id>}**
Applicable view	config view
Function Description	Create a custom format item, the field data of this item is filled in hex format.
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn

【Configuration case】

Case 1: Create a custom hex type pppoe proxy format item, the name is test02, and the cid is the keyword oltmac

```
OLT(config)# pppoe agent format add hex name test02 cid oltmac
```

34.6.Modify the sub-options of the custom PPPoE proxy format item

Command syntax	OLT(config)# **pppoe agent format modify name <format-name>{cid <circuit-id> | rid <remote-id>}**
Applicable view	config view
Function Description	Modify custom option82 format items
<format-name>	Custom format item name, length 1-32
circuit-id/remote-id	String, organized with defined keywords and slashes/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, point, gemid, onusn

【Configuration case】

Case 1: Modify the sub-option cid of the pppoe proxy custom format item test02 to hostname

```
OLT(config)# pppoe agent format modify name test02 cid hostname
```

34.7.View PPPoE proxy configuration information

Command syntax	OLT(config)# **show pppoe agent config**
Applicable view	config view
Function Description	This command is used to view the configuration of pppoe proxy

【Configuration case】

Case 1: View the configuration of the PPPOE proxy

```
OLT(config)# show pppoe agent config
   pppoe agent disable
   pppoeplus policy: keep
   pppoeplus option82 format: type5

OLT(config)#
```

34.8.View PPPoE proxy format items

Command syntax	OLT(config)# **show pppoe agent format (all | format-name)**
Applicable view	config view
Function Description	This command is used to view the pppoe proxy format
all	View all format items
format-name	name of the format item to be viewed

【Configuration case】

Case 1: View the configuration of the PPPOE proxy

```
OLT(config)# show pppoe agent format all
------------------------------------------------ ------------------------------------
Index: 1 Name: type4 type: hex

CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)onuid(1 byte)
RemoteId : oltmac(6 bytes)
------------------------------------------------ ------------------------------------
Index: 2 Name: type5 type: hex

CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)
RemoteId : oltmac(6 bytes)
------------------------------------------------ ------------------------------------
```

```
Index: 3 Name: type6 type: ascii

CircuitId: hostname-chassis-slot-ponid-gemidonuid
RemoteId :
---------------------------------------------- ----------------------------------
OLT(config)#
```

35.Access control settings

35.1.Default access rules

Command syntax	OLT(config)# **service default policy {deny|permit}**
Applicable view	Config view
Function Description	This command is used to set the default access rule for all login methods
{deny|permit}	Deny is denied, permit is allowed

【Configuration case】

Case 1: Set the default access rule to deny access

```
OLT(config)# service default policy deny
```

35.2.Set up access rules for different login methods

Command syntax	OLT(config)# **service {http|snmp|ssh|telnet} {add|delete|insert|modify} rule range <ABCD> to <ABCD> {deny|permit}**
Applicable view	config view
Function Description	This command is used to set access rules for different login methods, (Note: rule id does not need to be set in the add command, it will increment from 1 by default)
{add|delete|insert|modify}	add, delete, insert, modify
{deny|permit}	deny is denied, permit is allowed
{http|snmp|ssh|telnet}	Login Method

<ABCD>	ip address

【Configuration case】

Case 1: Add ssh access rules to allow access from 192.168.1.1 to 192.168.1.254

```
OLT(config)# service ssh add rule range 192.168.1.1 to 192.168.1.254 permit
```

35.3.Clear access rules

Command syntax	OLT(config)# **service {http|snmp|ssh|telnet} rule clear**
Applicable view	config view
Function Description	This command is used to clear the access rules for this login method
{deny|permit}	deny is denied, permit is allowed
{http|snmp|ssh|telnet}	Login Method

【Configuration case】

Case 1: Clear all access rules for http

```
OLT(config)# service http rule clear
```

35.4.View access rule information

Command syntax	OLT(config)# **show service {default policy}|{(telnet|ssh|http|https|snmp) rule}**
Applicable view	config view
Function Description	This command is used to view the default access rules of all login methods or the access rule information of a specific login method.
default policy	Default access rules for all login methods
{telnet|ssh|http|https|snmp}	Login Method
rule	access rules

【Configuration case】

Case 1: View the access rules of http

```
OLT(config)# show service http rule
No Rules for service http
```

36.Login method control

36.1.Device login method settings

Command syntax	OLT(config)# **service (telnet|ssh|http|https|snmp) { enable | disable} < service port>**
Applicable view	config view
Function Description	This command is used to enable different login methods.
(telnet|ssh|http|https|snmp)	Login Method
{ enable |disable}	enable: enable a certain login method disable: disable a certain login method
< service port >	Specifies the port number of the server , the value range is 1-65535

【Configuration case】

Case 1: Enable telnet login service

```
OLT(config)#service telnet enable
OLT(config)#
```

36.2.Check the status of the device login method

Command syntax	OLT(config)# **show service (telnet|ssh|http|https|snmp) status**
Applicable view	config view
Function Description	This command is used to view the status information of different login methods.
(telnet|ssh|http|https|snmp)	Login Method

【Configuration case】

Case 1: Check the status of the telnet login method

```
OLT(config)#show service telnet status
---------------------------------------------- -------------------------
```

```
SERVICE PORT DEFAULT PORT STATUS
telnet 23 23 enable
------------------------------------------------ ------------------------
OLT(config)#
```

36.3.TELNET access device

Command syntax	OLT(config)# **telnet <WORD>**
Applicable view	config view
Function Description	This command is used to access the device remotely
<WORD>	IP address or hostname of the remote system

【Configuration case】

Case 1: telnet to 192.168.101.1

```
OLT(config)# telnet 192.168.101.1
```

Appendix 1

Different VLAN modes process packets as follows:

Vlan mode	Processing of received messages		Processing of sent messages
	When the received message does not carry a Tag	Tagged frame When the received message has a Tag	
Access	Mark the native vlan for the message	• When the vlan id is the same as the native vlan, the packet is discarded • When the vlan id is different from the native vlan, the packet is discarded	Remove native vlan and forward packets
trunk	Add the configured native vlan to the message	• When the vlan id is in the list that the port is allowed to pass through, the packet is received • When the vlan id is not	• When the vlan id is the same as the native vlan, remove the vlan tag of the packet and forward the packet.

		in the list allowed by the port, discard the packet	• When the vlan id is different from the native vlan and is the vlan id allowed by the port, the original tag is maintained and the packet is sent.
Hybrid			When the vlan id carried in the packet is the vlan id that the port is allowed to pass through, the packet is sent, and the **vlan hybrid** command can be used to configure whether the port carries the tag in the packet sent by the vlan.

concluding remarks

Thank you for using the products of C-DATA Technology Co., Ltd.!

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